

TRAFFIC STUDY

For

***Fuerte Ranch Estates
(TM 5343RPL2, GPA 03-006, REZ 03-017)***

in the County of San Diego

Submitted To:

Reynolds Communities

Submitted By:

Darnell & Associates, Inc.

Revised: November 20, 2006

Revised: April 13, 2006

Revised: December 6, 2004

Revised: May 21, 2004

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**DEPARTMENT OF PLANNING
AND LAND USE**

Darnell & ASSOCIATES, INC.

TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

November 20, 2006

Philip R. Conard Jr.
Reynolds Communities
1908 Friendship Drive, Suite A
El Cajon, CA 92020

D&A Ref. No: 030204

Subject: Revised Traffic Study for Fuerte Ranch Estates (TM 5343) Located on 26.87 Acres at the Southeast Corner of Fuerte Drive and Damon Lane in the County of San Diego.

Dear Mr. Conard Jr.:

In response to the County of San Diego's Comment Letter dated September 14, 2006, Darnell & Associates, Inc. (D&A) has revised our April 13, 2006 traffic study for the subject project. This version of the report also addresses the latest comments received from the project team on November 20, 2006. A copy of our written responses to each of the County's comments have been attached directly behind the transmittal letter and in Appendix I.

This report provides an assessment of the impacts associated with the proposed Fuerte Ranch Estates located on 26.87 acres at the southeast corner of Fuerte Drive and Damon Lane in the County of San Diego. This report analyzes the traffic impacts associated with the proposed project on local roadways and intersections under existing, existing plus project, and 2030 with and without project conditions.

If you have any questions, please feel free to contact this office.

Sincerely,

DARNELL & ASSOCIATES, INC.



Vicki S. Haskell, P.E.
Senior Transportation Engineer
RCE 63754



Date Signed: 11-20-06

BED/vsh
030204-Fuerte Ranch Estates-Rpt7 (Nov 06)/11-06

Darnell & ASSOCIATES, INC.

TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

MEMORANDUM

DATE: November 20, 2006
TO: Philip R. Conard Jr., Reynolds Communities
FROM: Vicki S. Haskell, P.E. *VSH*
D&A Ref. No: 030204
RE: Fuerte Ranch Estates (TM 5343RPL2) – Responses to County Comments

Darnell & Associates, Inc. (D&A) has reviewed the County of San Diego's September 14, 2006 comments on our April 13, 2006 traffic study for Fuerte Ranch Estates. The following summarizes our responses to each of the County's comments. These responses have been incorporated into our November 2006 report.

Comment 1: Operational issues/concerns on Fuerte Drive have been brought to the attention of County Traffic Operations staff by residents along Fuerte Drive. County staff is currently working with the Fuerte Drive Residential Traffic Committee to address their issues/concerns. The traffic study should summarize the Fuerte Drive traffic operation issues and identify mitigation measures to address project's impacts to traffic operations along Fuerte Drive. Bob Goralka, County Traffic Engineer, can be contacted at 858-874-4202 for further information regarding the Fuerte Drive traffic operation issues.

Response 1: Per discussions with Bob Goralka, the traffic issues regarding Fuerte Drive are on going and a report/document summarizing the issues is not available at this time. Mr. Goralka indicated that the primary concern of residents has been with regards to the speeds along Fuerte Drive. The speed surveys conducted by the County for Fuerte Drive have been referenced in the Sight Distance discussion provided in Section V (see page 31) and a copy of the speed surveys have been provided in Appendix A of the November 2006 report.

Additional concerns that have been raised by the community with regards to traffic in the area are addressed in Section VII of the report. Section VII has been revised to include a reference to the on going work with the County and residents along Fuerte Drive (see the last paragraph of page 36).

Comment 2: As identified on page 37, the County's Traffic Advisory Committee (TAC) – [contact Maria Rubio-Lopez, DPW (0338) at 858-874-4030] must review the proposed stop signs at the project's access points and the proposed parking restriction along Fuerte Drive. The Board of Supervisor must approve the proposed stop signs and parking restriction.

Response 2: The on-site roads are proposed to be public roads thus the project access points will be intersections of a public-to-public road. Typically, Board approval is required to install a stop sign at the intersection of a public-to-public road. Fuerte Drive is a through street, and Board direction approval for stop signs on public roads intersecting through streets has been provided. Since the Damon Lane/Fuerte Farms Road-Project Access intersection is already stop-controlled on the eastbound approach, the installation of a stop sign on the project access (westbound) approach will not change the flow of existing traffic. (See Section V, Page 30, 3rd paragraph.)

Additional community concerns with traffic issues in the area and a reference to the County's on-going study is provided in Section VII of the report (see page 36.)

Comment 3: Page 28-Project access-the analysis for the need for left turns from Fuerte Drive to the project access and Damon Lane appear in part to be based on the proposed stop signs and/or parking restrictions. The proposed stop signs and/or parking restrictions may not be approved. Provide an analysis where the proposed stop signs and/or parking restrictions are not approved.

Response 3: See the response to Comment 2. In addition, the assessment for the need for the left turn lanes has been expanded to show that even if 100% of the project traffic were to utilize either of the driveways, a left turn lane would not be required (see Section V, page 31, paragraphs 2 and 3.)

The parking restrictions are needed to improve the existing sight distance at the Fuerte Drive/Damon Lane intersection. Since the proposed project will add traffic to Damon Lane, the developer will submit a request to the Traffic Advisory Committee (TAC) to restrict parking along the south side of Fuerte Drive for approximately 240 feet west of Damon Lane. (See Section V, "Sight Distance", page 33, 1st full paragraph.)

Comment 4: Page 29-Spacing-see DPW draft requirements for the need to submit a Request for an Exception to a Road Standard and/or Modification to Project Conditions.

Response 4: County staff has advised the project's Civil Engineer that the spacing between the proposed project entrance and the driveways on the north side of Fuerte Drive is not an issue, and that the project conditions will be written in a way that does not preclude the proposed project entrance from being located as shown on the Tentative Map. However, a note has been added to Section V, "Driveway Spacing" to indicate that the developer will be required to file for a design exception for the driveway spacing. (See page 31, 5th paragraph.)

Comment 5: Page 30-Sight Distance – provide the 85th percentile speeds for Fuerte Drive as a guide to determine sight distance. Note that the proposed stop signs and/or parking restrictions may not be approved.

Response 5: The traffic study has been revised to reference the speed surveys for Fuerte Drive provided by the County. Since the 85th percentile speed (43.2 mph) is less than the design speed for the road (45 mph), the design speed was utilized to assess the required sight distance. The parking restrictions along the south side of Fuerte Drive for approximately 240 feet west of Damon Lane are needed to provide adequate sight distance. Since the proposed project will add traffic to Damon Lane, the developer will submit a request to the Traffic Advisory Committee (TAC) for the parking restrictions. It is noted that the parking restriction may not be approved. (See Section V, "Sight Distance", page 32, 4th paragraph.)

Comment 6: Figure 10-see DPW draft requirements relative to the project access to wit: "What is the purpose of providing a funnel-fan out type design as opposed to the standard public road intersection with no funnel-fan out?"

Response 6: This is an improvement plan item and is being addressed by the project's Civil Engineer. No revisions have been made to the traffic study to address this comment.

Please feel free to contact the office if you have any questions regarding the above responses.

TRAFFIC STUDY

FOR

FUERTE RANCH ESTATES
(TM 5343RPL2, GPA 03-006, REZ 03-017)

IN THE
COUNTY OF SAN DIEGO

Submitted To:

*REYNOLDS COMMUNITIES
1908 FRIENDSHIP DRIVE, SUITE A
EL CAJON, CA 92020*

Submitted By:

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November 20, 2006

030204-Fuerte Ranch Estates-Rpt7 (Nov 06)/11-06

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- AM/PM Peak Hour Traffic Counts
 - 24-Hour Machine Counts
- SANDAG Trip Generation Rates
- County of San Diego Level of Service Thresholds
- County of San Diego Guidelines for Determining Significance
 - Excerpts from the Public Facility Element
 - Forecast Volumes
- County TIF Fee for the Valle De Oro Region

APPENDIX B

- Existing Conditions Worksheets

APPENDIX C

- Existing + Project Conditions Worksheets

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- 2030 Base Worksheets

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- Project Access Analysis Worksheets

APPENDIX G

- Sight Distance Photos

APPENDIX H

- Collision Records
- Speed Survey for Fuerte Drive

APPENDIX I

- Responses to County Comments

EXECUTIVE SUMMARY

The developer proposes to construct 40 single-family estate homes (Fuerte Ranch Estates) on a 26.87 acre site located at the southeast corner of Fuerte Drive and Damon Lane in the County of San Diego. The project site's current zoning is A72, an agricultural use with a minimum lot size of four acres to yield a potential of six (6) lots (i.e. $26.87 \text{ acres} \div 4 \text{ acres} = 6.7 \text{ lots}$). Since the project proposes to construct 34 more lots than the site is currently zoned for a re-zone is required.

As this report will show, the proposed Fuerte Ranch Estates is estimated to generate 480 average daily trips, 38 AM peak hour trips, and 48 PM peak hour trips. The project does not have any direct or future impacts. The project is part of a potential cumulative impact; therefore, it would be required to pay the County Transportation Impact Fee (TIF).

Section VIII of this report summarizes the recommended mitigation measures for the project's cumulative impacts.

SECTION I - INTRODUCTION

PROJECT DESCRIPTION

The proposed Fuerte Ranch Estates is located on a 26.87 acre site at the southeast corner of Fuerte Drive and Damon Lane in the County of San Diego. Currently, the project site is occupied by a poultry farm. With the development of the proposed project, the existing poultry farm will be demolished. The project site's current zoning is A72, an agricultural use with a minimum lot size of four acres to yield a potential of six (6) lots (i.e. $26.87 \text{ acres} \div 1 \text{ lot per } 4 \text{ acres} = 6.7 \text{ lots}$). The project proposes to construct 40 single-family estate homes, 34 more lots than the site is currently zoned for and will thus require a re-zone. It should be noted that the proposed site usage is consistent with the County's GP2020 plan. Figure 1 shows the regional location of the project and Figure 2 shows the proposed site plan.

CONGESTION MANAGEMENT PROGRAM

Based on the approval of Proposition 111 in 1990, regulations require the preparation, implementation and annual updating of a Congestion Management Program (CMP) in each of California's urbanized counties. The original CMP for the San Diego region was adopted in 1991 and has been updated periodically as an element of the Regional Transportation Plan (RTP). One required element of the CMP is a process to evaluate the transportation and traffic impacts of large projects on the regional transportation system. That process is undertaken by local agencies, project applicants and traffic consultants through a transportation impact report usually conducted as part of the CEQA project review process. Authority for local land use decisions including project approvals and any required mitigation remains the responsibility of local jurisdictions.

The criteria for which a project is subject to the regulations as set forth in the CMP are determined by the trip generation potential for the project. Currently, the threshold is 2,400 average daily trips (ADT) or 200 peak hour trips. The proposed Fuerte Ranch Estates generates 480 average daily trips, 38 AM peak hour trips, and 48 PM peak hour trips (see Section III), and is therefore, not subject to CMP guidelines for traffic impact studies.

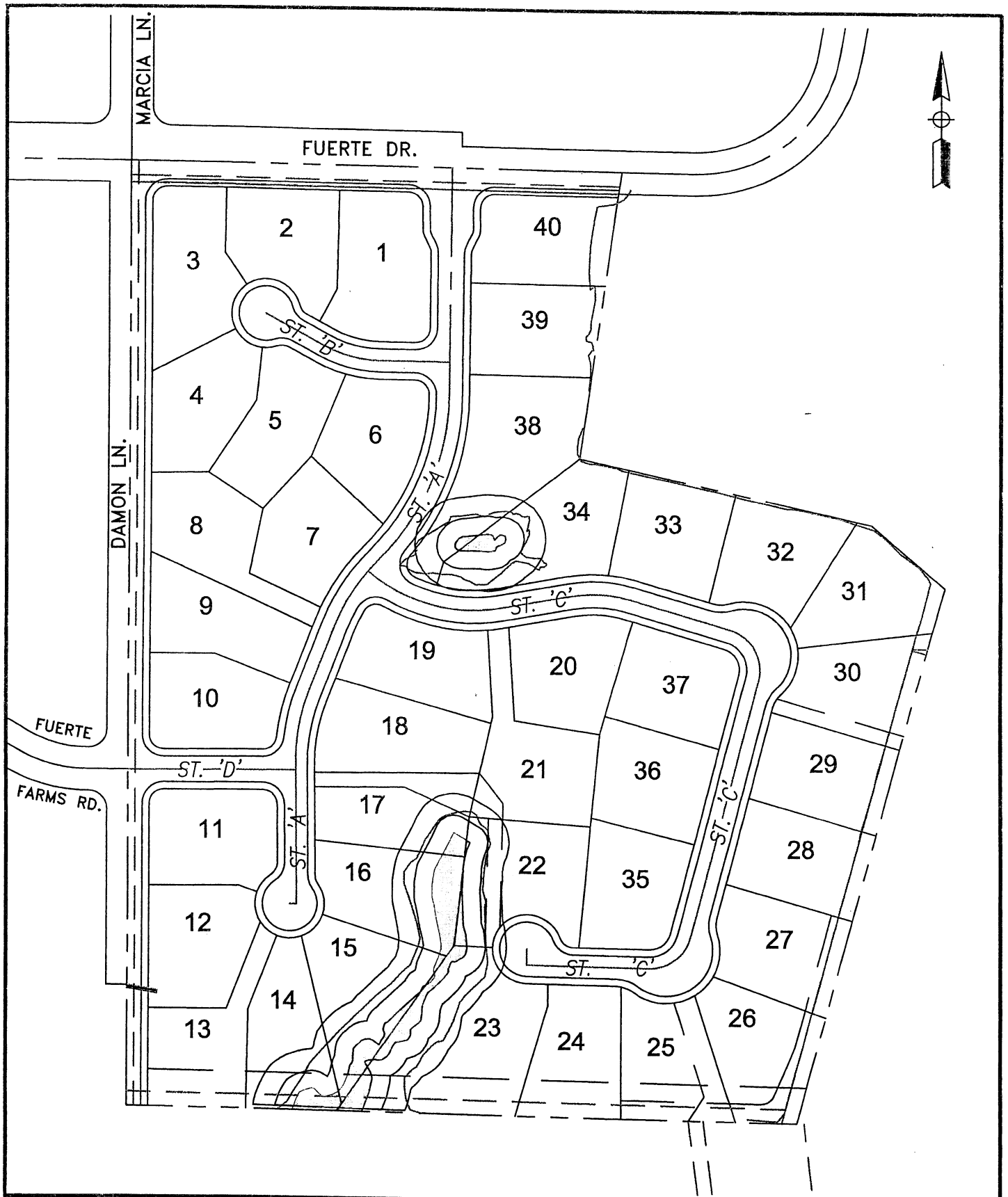
SCENARIOS STUDIED

The traffic scenarios analyzed in this report are identified as follows:

Existing Conditions refers to that condition which exists on the ground today, including existing traffic counts and existing lane configurations at intersections and on roadway segments.

Existing Plus Project Conditions refers to that condition which includes the project traffic added onto existing volumes. Analysis is first conducted using the existing street configurations, and mitigation is added if required.

2030 Base Conditions refers to that condition which will exist in the Year 2030 when the project site is developed based on its current zone designation of A72, an agricultural use with a minimum lot size of four acres to yield a potential of six (6) lots on the 26.87 acre site. With the exception of Chase Avenue and State Route 94 (SR94) east of Avocado Boulevard, all roadway segments in the vicinity of the project are already built out to their ultimate Circulation Element classification, therefore they were analyzed utilizing their existing lane configurations and traffic control. Chase Avenue was assumed to be built out to its ultimate classification of a four-lane Major Road under 2030 conditions and SR94 east of Avocado was assumed to be built out to a four lane Freeway. This scenario shows the impact without the project.



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FIGURE 2
SITE PLAN

2030 Plus Project Conditions refers to that condition which will exist in the Year 2030 when the project site is re-zoned to allow the development of the proposed project. This scenario shows the impact with the project.

LEVEL OF SERVICE

Level of Service (LOS) is a professional industry standard by which the operating conditions of a given roadway segment or intersection are measured. Level of Service is defined on a scale of A to F; where LOS A represents the best operating conditions and LOS F represents the worst operating conditions. LOS A facilities are characterized as having free flowing traffic conditions with no restrictions on maneuvering or operating speeds; traffic volumes are low and travel speeds are high. LOS F facilities are characterized as having forced flow with many stoppages and low operating speeds. Table 1 shows the average daily traffic volumes (ADT) and delay ranges that are equivalent to each level of service.

Table 1 - Level of Service Ranges			
LOS	Intersections		Roadway Segments
	Signalized- Delay (Seconds/Vehicle) ¹	Unsignalized Delay (Seconds/Vehicle) ¹	Average Daily Traffic (ADT) ²
A	Less than or Equal to 10.0	Less than or Equal to 10.0	Less Than 1,900
B	10.1 to 20.0	10.1 to 15.0	1,900 to 4,100
C	20.1 to 35.0	15.1 to 25.0	4,100 to 7,100
D	35.1 to 55.0	25.1 to 35.0	7,100 to 10,900
E	55.1 to 80.0	35.1 to 50.0	10,900 to 16,200
F	Greater Than 80.0	Greater Than 50.1	Greater Than 16,200

¹ The delay ranges shown are based on the 2000 Highway Capacity Manual (HCM)
² The volume ranges are based on the County of San Diego Circulation Element of a Light Collector, the average daily volume ranges for the other roadway classifications has been provided in Appendix A.
LOS = Level of Service

According to page XII-4-15 of the San Diego County General Plan *Public Facility Element* "A LOS 'C', which allows for stable traffic flow with room to maneuver, is a generally accepted level to strive for in new development. ... However, there are some cases where development cannot achieve a LOS 'C' on off-site roadways. For instance, there are areas where the existing development pattern precludes the addition of lanes or other mitigation or when the community is opposed to certain improvements to maintain a LOS 'C'. ... In these cases a Level of Service 'D' is acceptable on off-site roadways." A copy of excerpts from the County's *Public Facility Element* can be found in Appendix A.

ANALYSIS METHODOLOGY

The roadway segment daily LOS was determined by comparing the traffic volumes under each traffic scenario to the capacity of the roadway according to its roadway cross-section and classification. For the purpose of this report, the daily traffic volumes of the roadway segments in the vicinity of the project (as presented in Figure 4) were compared to the County of San Diego Level of Service classification thresholds. The daily (24 hour) traffic count sheets and a copy of the "Summary of County of San Diego Public Road Standards" are included in Appendix A.

The Highway Capacity Software (HCS), version 5.2 was utilized to analyze the morning and afternoon peak hour conditions of the intersections in the project vicinity. The signalized intersection methodology

defines LOS based on delay using variables such as lane configuration, traffic volumes and signal timings. The unsignalized intersection methodology defines LOS based on the longest delay experienced by any single movement. Since the HCS program calculates the average delay per vehicle, there may be instances where the HCS analysis will show a reduction in delay with the addition of more traffic. This phenomenon occurs when the additional traffic is added to a movement that experiences a shorter amount of delay, thereby decreasing the intersections average delay per vehicle (i.e. a larger amount of vehicles will have to wait a shorter time while only a few vehicles have to wait an extended period of time). It should be noted, however, that even if the addition of traffic results in a lower average intersection delay per vehicle, the total delay at the intersection will gradually increase as more traffic is added to the intersection. The measure of effectiveness utilized within this report is the average intersection delay, not the total intersection delay. It should be noted that this version of the HCS is based on the methodologies outlined in the 2000 Highway Capacity Manual (HCM).

REPORT ORGANIZATION

Following this section, Section II evaluates the existing roadway characteristics and traffic conditions surrounding the project area. Section III examines the potential trips generated by the proposed project and it defines the trip distribution assumptions. Section IV analyzes the traffic for existing plus project, and 2030 conditions with and without the proposed project. Section V addresses the project access and on-site circulation. Section VI discusses the project's construction traffic. Section VII addresses the concerns/issues of the Valle De Oro Community Planning Group's letter dated November 19, 2003. Section VIII provides recommended mitigation measures and Section IX summarizes the report's findings and conclusions.

SECTION II - EXISTING CONDITIONS

This section of the traffic study is intended to assess the existing conditions of the roadways and intersections within the vicinity of the project to determine travel flow and/or delay difficulties, if any, that exist prior to adding the traffic generated by the proposed project. The existing conditions analysis establishes a base condition which is used to assess the other scenarios discussed in this report.

Darnell & Associates, Inc. (D&A) conducted a field review of the area surrounding the project in February 2003 and again in December 2004. The existing roadway geometrics and traffic control are illustrated in Figure 3.

EXISTING ROADWAY CHARACTERISTICS

The key segments analyzed in the study area are identified below:

State Route 94 (SR94): State Route 94 is currently constructed as an east-west four (4) lane (two lanes each direction) freeway west of Avocado Boulevard and as a four (4) lane (two lanes each direction) Major Road east of Avocado Boulevard. Ultimately, Caltrans plans to improve the segment of SR94 from Avocado Boulevard easterly to the Sweetwater River to freeway standards.

Avocado Boulevard (SF 1398): Avocado Boulevard is a north/south four (4) lane (two lanes each direction) Circulation Element roadway with bike lanes and a center two-way left-turn lane. The current width of Avocado Boulevard in the vicinity of Fuerte Drive is approximately 68 feet. The posted speed limit on Avocado Boulevard is 45 miles per hour. The existing and ultimate cross-section of Avocado Boulevard is equivalent to that of a four-lane Major Road with bike lanes and a capacity of 33,400 average daily trips (ADT) at LOS D.

Fuerte Drive (SA 920): Fuerte Drive is an east/west two (2) lane (one lane each direction) Circulation Element roadway with bike lanes. In front of the school located just west of Damon Lane, a center two-way left-turn lane is provided along Fuerte Drive. The current width of Fuerte Drive at its intersection with Damon Lane is approximately 40 feet (two 14-foot travel lanes, a 4-foot shoulder on the south side, and an 8-foot shoulder on the north side). The posted speed limit on Fuerte Drive is between 25 to 35 miles per hour. The existing and ultimate cross-section of Fuerte Drive is equivalent to that of a Light Collector with bike lanes and a capacity of 10,900 ADT at LOS D.

Fuerte Farms Road: Fuerte Farms Road is a windy two (2)-lane (one lane each direction) non-Circulation Element public roadway with a painted centerline and no shoulder. Fuerte Farms Road is approximately 36 feet wide curb to curb. The current cross-section of Fuerte Farms Road is equivalent to a residential collector road.

Damon Lane: Damon Lane is a non-Circulation Element public road with approximately 18 feet of pavement with an asphalt curb on the west side of the roadway and no painted centerline. No parking is allowed on the westside of Damon Lane. On the east side of Damon Lane there is a varying shoulder width of eight (8) to fifteen (15) feet which is utilized for parking.

Chase Avenue (SA 910): Chase Avenue is an east/west two (2) lane (one lane each direction) Circulation Element Roadway with bike lanes. The current width of Chase Avenue is approximately 45 feet. Chase Avenue has a posted speed limit of 45 miles per hour. The existing cross-section of Chase Avenue is equivalent to that of a Light Collector with bike lanes, capacity of 10,900 ADT at LOS D. The ultimate classification of Chase Avenue is a Major Road with bike lanes, capacity of 33,400 ADT at LOS D.

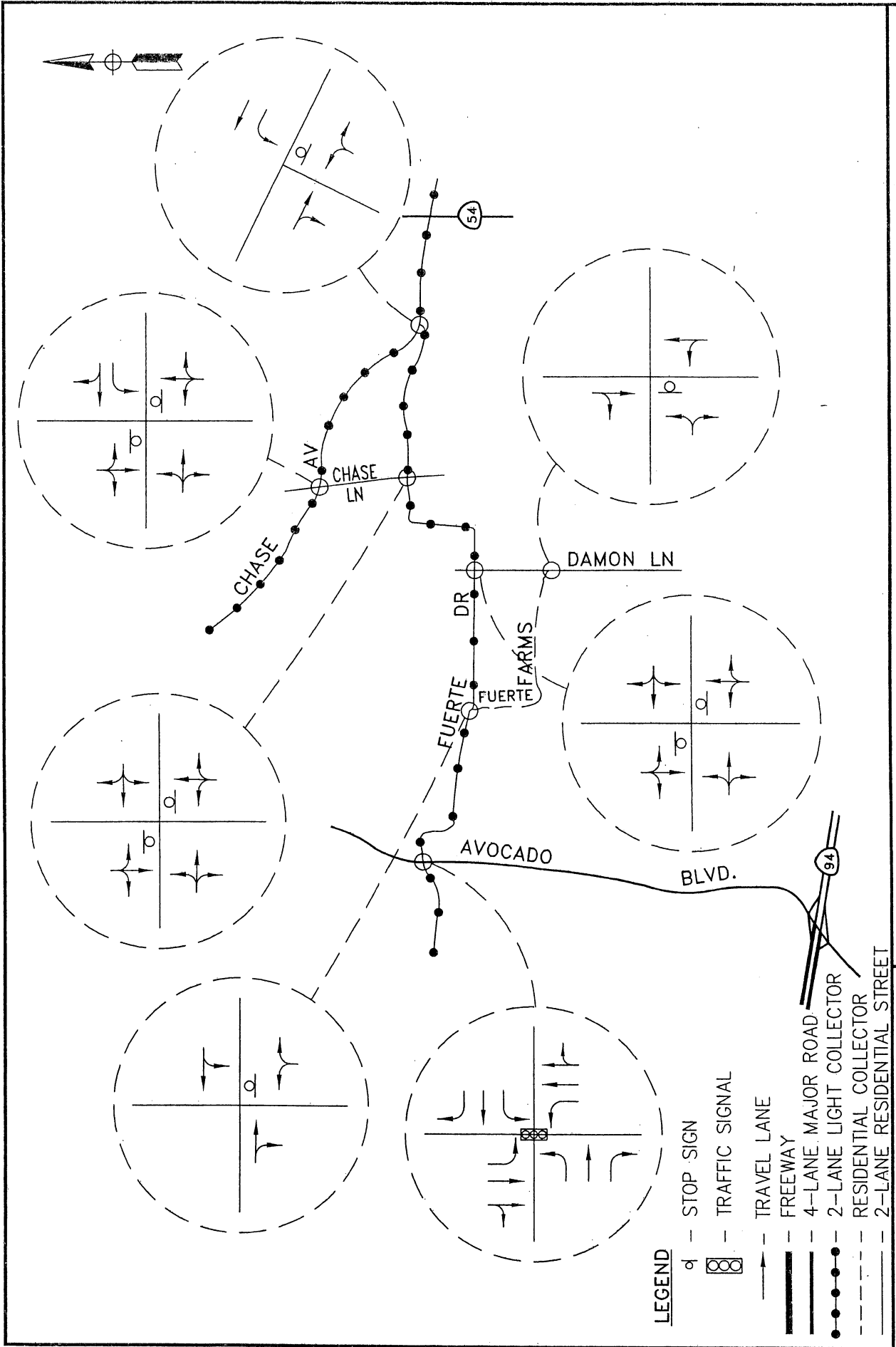


FIGURE 3
EXISTING CONDITIONS

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ROADWAY SEGMENT DAILY TRAFFIC

Daily traffic volumes (24-hour) were collected in January 2006 for all key roadway segments. Daily traffic volumes for State Route 94 were obtained from the Caltrans website. Figure 4 illustrates the existing traffic volumes of the key roadways segments. Count summaries are included in Appendix A.

KEY INTERSECTIONS

Figure 3 provides intersection configurations and traffic control for the key intersections. The key intersections analyzed include:

- Avocado Boulevard/Fuerte Drive (signalized);
- Fuerte Drive/Fuerte Farms Road (stop-controlled on the north and southbound approaches);
- Fuerte Drive/Damon Lane (stop-controlled on the north and southbound approaches);
- Fuerte Drive/Chase Lane (stop-controlled on the north and southbound approaches);
- Fuerte Drive/Chase Avenue (stop-controlled on the northbound approach);
- Chase Avenue/Chase Lane (stop-controlled on the north and southbound approaches); and
- Damon Lane/Fuerte Farms Road (stop-controlled on the eastbound approach).

INTERSECTION TRAFFIC COUNTS

Morning and afternoon peak hour traffic counts were conducted at each of the key intersections on a typical weekday in January 2006. Figure 4 presents the existing conditions peak hour traffic volumes used in this analysis. Count summaries are included in Appendix A.

EXISTING LEVEL OF SERVICE CONDITIONS

Roadway Segments

The existing daily roadway segment levels of service are summarized in Table 2. As can be seen in Table 2, the following roadway segments operate at LOS E under existing conditions: (1) Chase Avenue west of Chase Lane; and (2) Chase Avenue east of Fuerte Drive. State Route 94 east of Avocado Boulevard currently operates at LOS F. All other roadway segments analyzed operate at an acceptable LOS D or better.

Intersections

The existing levels of service for the key intersections are summarized in Table 3. A copy of the HCS worksheets for existing conditions can be found in Appendix B. As can be seen from Table 3, the northbound approach at the Chase Avenue/Chase Lane intersections currently operate at LOS D during the AM peak hour and LOS E during the PM peak hour. All other intersections analyzed operate at an acceptable level of service D or better during all peak periods.

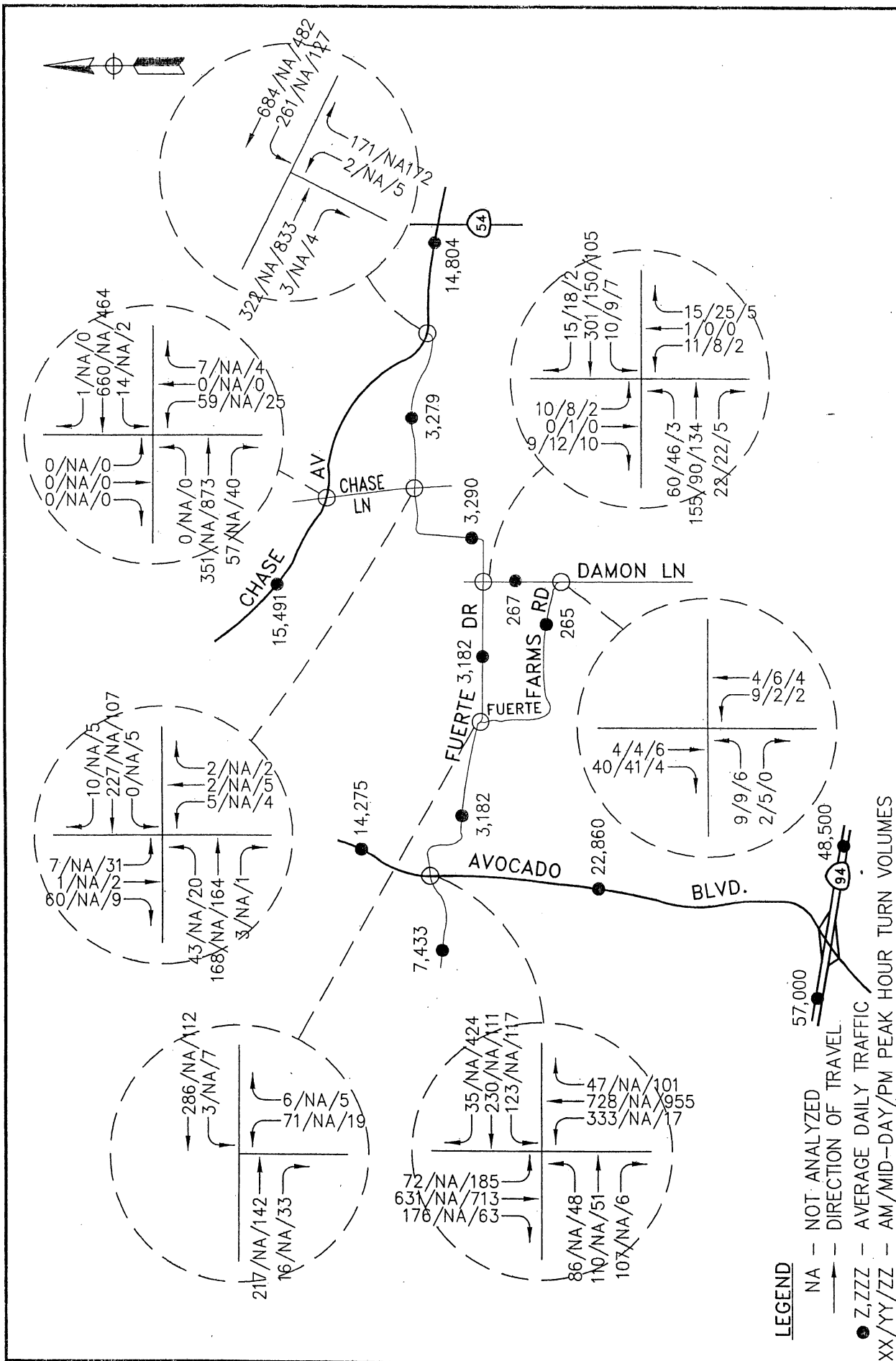


FIGURE 4
EXISTING TRAFFIC VOLUMES

Darnell & Associates, Inc.

Table 2 - Existing Roadway Segment Daily Level of Service Summary				
Roadway Segment	Class	Capacity (a)	Average Daily Traffic (ADT)	LOS
Avocado Boulevard				
-North of Fuerte Drive	4M	33,400	14,275	A
-South of Fuerte Drive	4M	33,400	22,860	B
Fuerte Drive				
-West of Avocado Boulevard	LC	10,900	7,433	D
-Avocado Boulevard to Fuerte Farms Road	LC	10,900	3,182	B
Fuerte Farms Road to Damon Lane	LC	10,900	3,182	B
-Damon Lane to Chase Lane	LC	10,900	3,290	B
-Chase Lane to Chase Avenue	LC	10,900	3,279	B
Fuerte Farms Road^(c)				
-Fuerte Drive to Damon Lane	RC	4,500	265	< C
Damon Lane^(c)				
-South of Fuerte Drive	RS	1,500	267	< C
Chase Avenue				
-West of Chase Lane	LC	10,900	15,491	E
- East of Fuerte Drive	LC	10,900	14,804	E
State Route 94				
-West of Avocado Boulevard	4F	(b)	57,000	C
-East of Avocado Boulevard	4M	33,400	48,500	F
(a) Capacity is based on the upper limit of LOS D per the County of San Diego Level of Service Thresholds (b) The levels of service for SR94 were determined based on the Caltrans District 11 procedures. See Appendix B for the calculations (c) Level of Service Thresholds are not typically applied to non-circulation element roads since their primary purpose is to serve abutting lots, not carry through traffic. The capacity shown here is the recommended upper limit of LOS C. < C = the traffic volume is less than the upper limit for LOS C; > C = the traffic volume is greater than the upper limit for LOS C LOS = Level of Service; 4F = 4-Lane Freeway; 4M = 4-Lane Major Road; LC = Light Collector; RS = Residential Street; RC=Residential Collector				

Table 3 - Existing Intersection Level of Service Summary							
Intersection	Critical Movement	AM Peak		Mid-Day Peak		PM Peak	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Avocado Blvd. @ Fuerte Dr. (Signalized)	Intersection	36.8	D	NA	NA	34.7	C
Fuerte Dr. @ Fuerte Farms Rd. (One-Way Stop-Controlled)	Northbound Approach	24.2	C	NA	NA	10.4	B
Fuerte Dr. @ Damon Ln. (Two-Way Stop-Controlled)	Eastbound Approach	9.3	A	7.9	A	7.4	A
	Westbound Approach	8.0	A	7.6	A	7.5	A
	Northbound Approach	24.9	C	10.4	B	9.4	A
	Southbound Approach	28.5	D	11.6	B	9.1	A
Fuerte Dr. @ Chase Ln. (Two-Way Stop-Controlled)	Eastbound Approach	7.9	A	NA	NA	7.5	A
	Westbound Approach	7.6	A			7.7	A
	Northbound Approach	13.8	B			11.6	B
	Southbound Approach	10.9	B			11.8	B
Fuerte Drive @ Chase Ave. (One-Way Stop-Controlled)	Westbound Left	8.8	A	NA	NA	10.5	B
	Northbound Approach	12.5	B			28.0	D
Chase Ave. @Chase Ln. (Two-Way Stop-Controlled)	Eastbound Approach	9.0	A	NA	NA	8.3	A
	Westbound Approach	8.2	A			10.0	A
	Northbound Approach	32.6	D			41.4	E
Fuerte Farms Rd @ Damon Ln (One-Way Stop-Controlled)	Eastbound Approach	9.0	A	8.8	A	8.7	A
LOS = Level of Service; sec/veh = seconds of delay per vehicle; NA = Not Analyzed							

SECTION III - PROJECT RELATED CONDITIONS

TRIP GENERATION

The trip generation potential for the proposed project is based on daily and peak hour trip generation rates obtained from the *(Not So) Brief Guide of Traffic Generators for the San Diego Region* published by the San Diego Association of Governments (SANDAG) in April 2002. Utilizing the SANDAG rates and the characteristics of the proposed project, estimates of daily and peak hour traffic volumes generated by the project can be calculated. Table 4 summarizes the trip generation rates and volumes for the proposed project.

As shown in Table 4, the proposed Fuerte Ranch Estates is estimated to generate 480 average daily trips, 38 AM peak hour trips, and 48 PM peak hour trips, an increase of 408 daily trips, 32 AM peak hour trips, and 41 PM peak hour trips over the current zoning. Since the project site is currently occupied by a poultry farm, which generates nominal traffic, no traffic credits were given for the existing use of the site (i.e. all 480 daily trips generated by the proposed project were assumed to be brand new trips).

Table 4 - Trip Generation Rates and Calculations Summary								
Trip Generation Rates								
Land Use	Daily	AM Peak Hour			PM Peak Hour			
		Total - % of Daily	%In	%Out	Total - % of Daily	%In	%Out	
Estate Residential	12 Trips/DU	8%	3%	7%	10%	7%	3%	
Trip Generation								
Land Use	Total No. of Units	Daily	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Current Zoning (A72)								
Estate Residential	6 DUs	72	6	2	4	7	5	2
Proposed Zoning								
Estate Residential	40 DUs	480	38	11	27	48	34	14
Difference (Proposed-Current)	34 DUs	408	32	9	23	41	29	12
Trip Generation Rates are based on rates published by SANDAG; DU = Dwelling Unit								

SANDAG does not have a published mid-day peak hour trip generation rate for residential dwelling units, however, for the purpose of this report, the mid-day peak hour trip generation was assumed to be equivalent to the PM peak hour of generation.

TRIP DISTRIBUTION/TRIP ASSIGNMENT

The trip distribution percentages for the project were based on the existing travel patterns and the location of typical trip purposes (i.e. schools, employment, shopping, etc.). The trip distribution percentages and project related traffic are illustrated in Figure 5. The impacts associated with the addition of project traffic are discussed in the following section, Section IV.

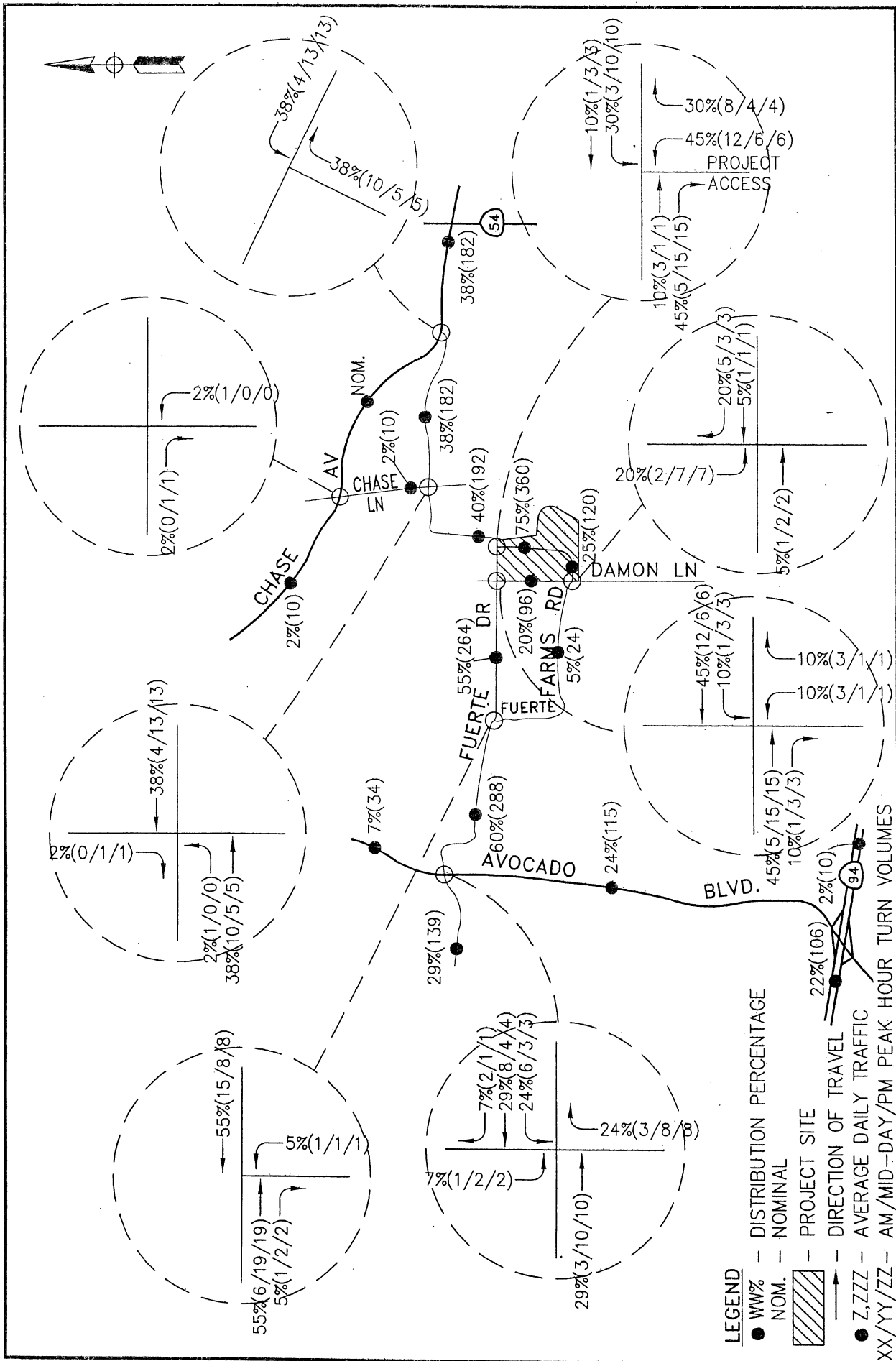


FIGURE 5
TRIP DISTRIBUTION PERCENTAGES & PROJECT RELATED TRAFFIC

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SECTION IV - IMPACTS

PUBLIC FACILITIES ELEMENT IN COUNTY

According to page XII-4-18 of the *Public Facility Element* for San Diego County, a discretionary project which has a significant impact on roadways will be required, as a condition of approval, to make “improvements or other measures necessary to mitigate traffic impacts to avoid reduction in the existing Level of Service below ‘D’ on off-site and on-site abutting Circulation Element roads. New development that would significantly impact congestion on roads at LOS ‘E’ or ‘F’, either currently or as a result of the project, will be denied unless improvements are scheduled to increase the LOS to ‘D’ or better or appropriate mitigation is provided. Appropriate mitigation would include a fair share contribution in the form of road improvements or a fair share contribution to an established program or project. If impacts cannot be mitigated, the project will be denied unless a specific statement of overriding findings is made pursuant to Section 15091(b) and 15093 of the State CEQA Guidelines.”

LEVELS OF SIGNIFICANCE STANDARDS

Although the *Public Facility Element* (PFE) sets standards as to which level of service roadways and intersections must operate within the County (i.e. requires operation of LOS D or better), it does not establish a threshold to evaluate whether a project is significant if it adds traffic to a roadway facility that is currently operating at an unacceptable LOS E or F. Thus, the County’s *Guidelines for Determining Significance* (adopted September 26, 2006) were developed to evaluate the significance of traffic impacts on roadways and intersections which are currently operating at LOS E or F. A summary of the County’s Guidelines is provided in Table 5. Excerpts from the County’s Guidelines are provided in Appendix A.

Table 5 - Measures of Significant Project Impacts					
LOS	Allowable Increase on Congested Roads and Intersections				
	Intersections		Road Segments		
	Signalized	Unsignalized	2-Lane Road	4-Lane Road	6-Lane Road
LOS E	Delay of 2 seconds	20 peak hour trips on a critical movement	200 ADT	400 ADT	600 ADT
LOS F	Delay of 1 second, or 5 peak hour trips on a critical movement	5 peak hour trips on a critical movement	100 ADT	200 ADT	300 ADT
Notes: – A critical movement is one that is experiencing excessive queues. – By adding proposed project trips to all other trips from a list of projects, these same tables are used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes any trips must mitigate a share of the cumulative impacts. – The County may also determine impacts have occurred on roads even when a project’s traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.					
ADT = Average Daily Traffic; LOS = Level of Service, sec = Seconds of Delay per Vehicle					

It should be noted that the significance thresholds summarized in Table 5 are currently only utilized by the County of San Diego to determine if a project has a significant direct and/or future impact. A project is considered to have a significant near term cumulative impact if it adds any traffic to a roadway segment and/or intersection that operates at LOS E or F under near term cumulative conditions.

The County guidelines also states that “For large projects, controversial projects and/or projects which are preparing Environmental Impact Reports, more detailed evaluations to verify the applicability of the

significance thresholds for the individual project conditions may be necessary. Additional evaluations may include analysis of vehicle headways, speeds, average gaps, queues, delay, and/or other factors.”

Consistent with the *Public Facility Element* the criteria described below was only applied to segments and intersections that operate at LOS E or LOS F.

Roadway Segments

As shown in Table 5, per the County’s Guidelines, a project would be considered to have a significant direct traffic volume and/or level of service traffic impact on a road segment if:

- “The additional or redistributed ADT generated by the proposed project will cause an adjacent or nearby County Circulation Element Road to operate below LOS D and will significantly increase congestion as identified in Table [5], and/or
- The additional or redistributed ADT generated by the proposed project will cause a residential street to exceed its design capacity, and/or
- The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a Circulation Element Road, State Highway or intersection currently operating at LOS E or LOS F as identified in Table [5].”

As discussed on pages 12 and 13 of the County’s *Guidelines for Determining Significance*, an increase of the daily thresholds established for roadway segments operating at LOS E would result in only one additional car every 2.4 minutes per lane while the thresholds established for roadway segments operating at LOS F would result in only one additional car every 4.8 minutes. Therefore, the thresholds identified in Table 5, in most cases, would result in changes to traffic flow that would not be noticeable to the average driver and would thus not constitute a significant impact on the roadway.

Signalized Intersections

At signalized intersections, the project would be considered to have a significant direct volume and/or level of service traffic impact if:

- “The additional or redistributed ADT generated by the proposed project will cause a signalized intersection to operate below LOS D and will significantly increase congestion as identified in Table [5], and/or
- The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a signalized intersection currently operating at LOS E or LOS F as identified in Table [5].”

As discussed on page 15 of the County’s *Guidelines for Determining Significance*, an increase in delay of two seconds, the threshold established for signalized intersections operating at LOS E, “...is a small fraction of the typical cycle length for a signalized intersection that ranges between 60 and 120 seconds. The likelihood of increased queues forming due to the additional two seconds of delay is low.” Thus, the increase in delay of two (2) seconds, on average, would result in changes to traffic flow that would not be noticeable to the average driver and would thus not constitute a significant impact. Since small changes and disruptions to the traffic flow at a signalized intersection can have a greater effect on the overall

intersection operation when the intersection is operating at LOS F, versus LOS E, a more stringent guideline of one (1) second of delay was established for intersections operating at LOS F.

The five (5) peak hour trip threshold, established for the critical movement of a signalized intersection operating at LOS F, when spread out throughout the peak hour, results in an increase of one vehicle every 12 minutes or 720 seconds. This increase would not be noticeable to the average driver because one additional vehicle during a 12 minute interval, on average, would clear the traffic signal cycles well within the 12 minute period. Further, even if all five (5) additional peak hour vehicles arrived at the same time, these trips would also, on average, clear the traffic cycle and the existing queue lengths would be re-established. Thus, the increase five (5) peak hour trips to a critical movement at a signalized intersection, on average, would result in changes to traffic flow that would not be noticeable to the average driver and would thus not constitute a significant impact. (See page 15 of the County's *Guidelines for Determining Significance* provided in Appendix A.)

Unsignalized Intersections

At unsignalized intersections, the project would be considered to have a significant direct volume and/or level of service traffic impact if:

- "The proposed project will generate 20 or more peak hour trips to a critical movement of an unsignalized intersection, and cause the unsignalized intersection to operate below LOS D, or
- The proposed project will generate 20 or more peak hour trips to a critical movement of an unsignalized intersection and the unsignalized intersection currently operates at LOS E, or
- The proposed project will generate 5 or more peak hour trips to a critical movement of an unsignalized intersection, and cause the unsignalized intersection to operate below LOS E, or
- The proposed project will generate 5 or more peak hour trips to a critical movement of an unsignalized intersection and the unsignalized intersection currently operates at LOS F, or
- Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance and/or other factors, it is found that the generation rate less than those specified above would significantly impact the operations of the intersection."

As discussed on page 17 of the County's *Guidelines for Determining Significance*, the addition of 20 peak hour trips to a critical movement, the threshold established for an unsignalized intersection operating at LOS E, would result in an increase of one (1) vehicle every 3.0 minutes or 180 seconds. "Assuming the wait time for a vehicle in the critical movement queue is less than 3.0 minutes, which is typical for LOS E condition; this would not be noticeable to the average driver and would not be considered a significant impact." The five (5) peak hour trip threshold established for an unsignalized intersection operating at LOS F, would result in an increase of one (1) vehicle every 12.0 minutes or 720 seconds. "This typically exceeds the wait time in the queue and would not be noticeable to the average driver." (See page 17 of the County's *Guidelines for Determining Significance* provided in Appendix A.)

EXISTING PLUS PROJECT CONDITIONS

The daily and peak hour turn volumes for existing plus project conditions are illustrated in Figure 6.

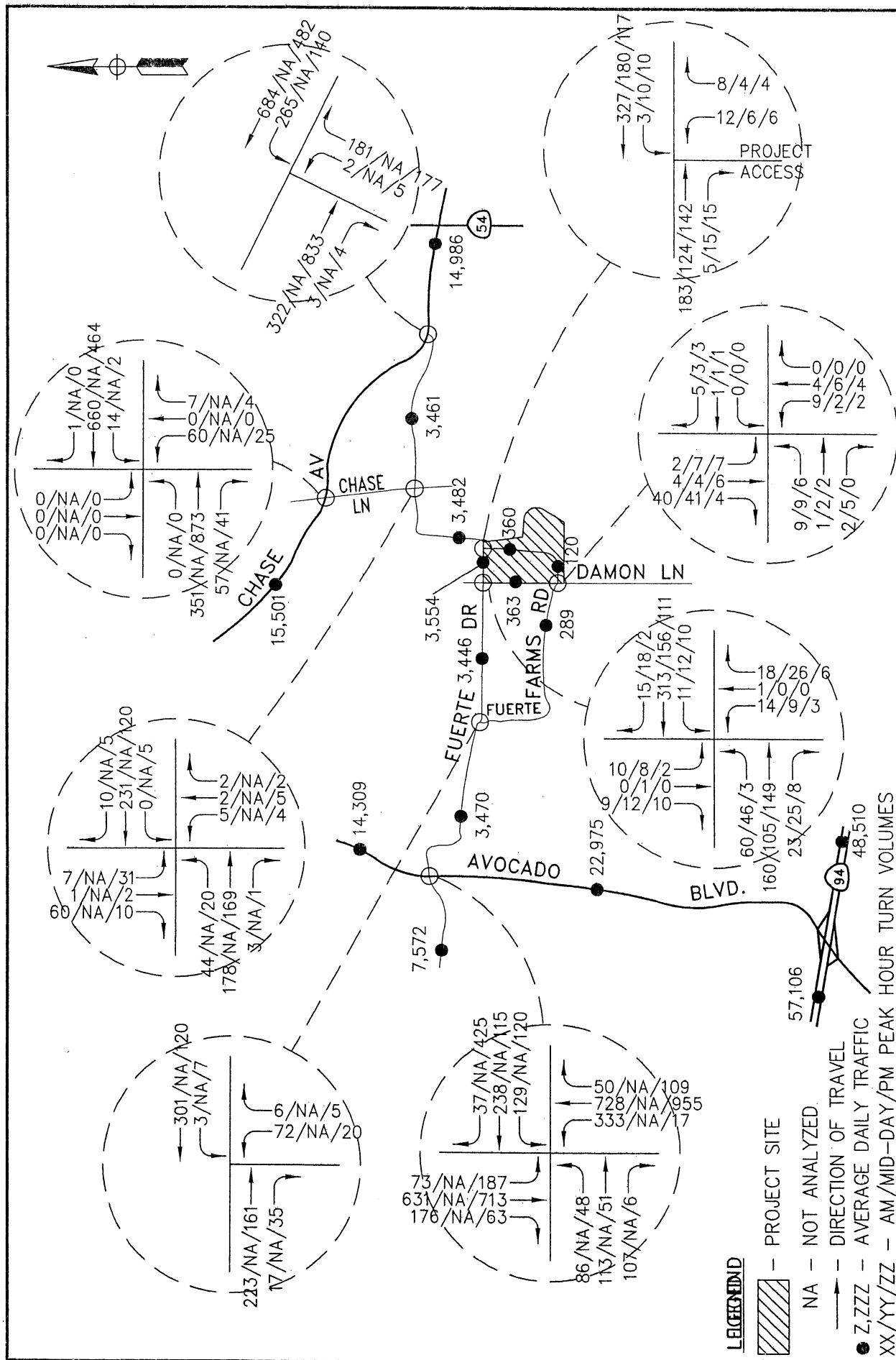


FIGURE 6
EXISTING PLUS PROJECT TRAFFIC VOLUMES

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Roadway Segments

The roadway segments were analyzed with the traffic generated from the proposed project added to existing traffic volumes. The roadway segments daily levels of service are summarized in Table 6. As shown in Table 6, the following roadway segments operate at LOS E or F under existing and existing plus project conditions:

- Chase Avenue West of Chase Lane (operates at LOS E);
- Chase Avenue East of Fuerte Drive (operates at LOS E); and
- State Route 94 east of Avocado Boulevard (operates at LOS F).

Under the PFE criteria, a significant impact would result if the project would “significantly impact congestion” on the road segments which currently operates at LOS E or F. The proposed project adds 182 two-way ADT or less to the above segments that operate at LOS E and 10 two-way ADT on the segment of SR94 that operates at LOS F. Since the project traffic added to the segments which operate at LOS E or F does not exceed the 200 ADT allowed per the County of San Diego’s *Guidelines for Determining Significance* for a two-lane roadway operating at LOS E or the 200 ADT allowed per the County of San Diego’s *Guidelines for Determining Significance* for a four-lane roadway operating at LOS F, it is concluded that the proposed project will not significantly impact congestion. Thus the proposed project does not have a significant direct impact on the above mentioned segments.

The remaining key roadway segments continue to operate at LOS D or better under existing plus project conditions.

Intersections

The existing plus project intersection level of service analysis is summarized in Table 7. A copy of the HCS worksheets for existing plus project conditions can be found in Appendix C. As can be seen from Table 7, the northbound approach at the Chase Avenue/Chase Lane intersection operates at LOS D during the AM peak hour and LOS E during the PM peak hour under existing and existing plus project conditions. Under the PFE criteria, a significant impact would result if the project would “significantly impact congestion” on this intersection which currently operates at LOS E or F. Since the addition of project traffic added to this intersection will increase the existing delay by 1 second or less and only adds one (1) vehicle to the northbound approach, which is less than that allowed per the County of San Diego’s *Guidelines for Determining Significance*, it is concluded that the proposed project will not significantly impact congestion at this intersection. Therefore, the proposed project is not considered to have a significant direct impact on this intersection. All other key intersections operate at LOS D or better during all peak hours under existing plus project conditions.

Table 6 - Existing + Project Roadway Segment Daily Level of Service Summary									
Roadway Segment	Class	Capacity (a)	Existing		Two-Way Project Traffic		Existing + Project		
			A.D.T.	LOS	A.D.T.	LOS	A.D.T.	LOS	Impact
Avocado Boulevard									
-North of Fuerte Drive	4M	33,400	14,275	A	34		14,309	A	None
-South of Fuerte Drive	4M	33,400	22,860	B	115		22,975	B	None
Fuerte Drive									
-West of Avocado Boulevard	LC	10,900	7,433	D	139		7,572	D	None
-Avocado Boulevard to Fuerte Farms Road	LC	10,900	3,182	B	288		3,470	B	None
Fuerte Farms Road to Damon Lane	LC	10,900	3,182	B	264		3,446	B	None
-Damon Lane to Project Access	LC	10,900	3,290	B	264		3,554	B	None
-Project Access to Chase Lane	LC	10,900	3,290	B	192		3,482	B	None
-Chase Lane to Chase Avenue	LC	10,900	3,279	B	182		3,461	B	None
Fuerte Farms Road^(c)									
-Fuerte Drive to Damon Lane	RC	4,500	265	< C	24		289	< C	None
Damon Lane^(c)									
-South of Fuerte Drive	RS	1,500	267	< C	96		363	< C	None
Chase Avenue									
-West of Chase Lane	LC	10,900	15,491	E	10		15,501	E	None
- East of Fuerte Drive	LC	10,900	14,804	E	182		14,986	E	None
State Route 94									
-West of Avocado Boulevard	4F	(b)	57,000	C	106		57,106	C	None
-East of Avocado Boulevard	4M	33,400	48,500	F	10		48,510	F	None

(a) Capacity is based on the upper limit of LOS D per the County of San Diego Level of Service Thresholds

(b) The levels of service for State Route 94 were determined based on the Caltrans District 11 procedures. See Appendix B & C for the calculation worksheets.

(c) Level of Service Thresholds are not typically applied to non-circulation element roads since their primary purpose is to serve abutting lots, not carry through traffic. The capacity shown here is the recommended upper limit of LOS C. < C = the traffic volume is less than the upper limit for LOS C; > C = the traffic volume is greater than the upper limit for LOS C

Significance is based on the County of San Diego's *Guidelines for Determining Significance*

N/A = Not Applicable because segment operates at LOS D or better; LOS = Level of Service; 4F = 4-Lane Freeway; 4M = 4-Lane Major Road; LC = Light Collector; RS = Residential Street; RC=Residential Collector

Table 7 - Existing + Project Intersection Level of Service Summary

Intersection	Crit. Mov	Existing						Existing + Project										Impact										
		AM Peak			PM Peak			AM Peak					Mid-Day Peak						PM Peak									
		Delay		LOS	Delay		LOS	Delay		LOS	Delay		LOS	Delay		LOS	Delay		LOS	Delay		LOS	Proj. Trips		Sig.?			
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Δ Delay	Proj. Trips	Sig.?	Delay	LOS	Δ Delay	Proj. Trips	Sig.?		Delay	LOS	Δ Delay	Proj. Trips	Sig.?					
Avocado @ Fuerte Dr. (Signalized)	Int.	36.8	D	NA	NA	34.7	C	37.3	D	0.5	23	N/A	Not Analyzed					34.9	C	0.2	28	N/A	None					
Fuerte @ Damon (TWSC)	EB	9.3	A	7.9	A	7.4	A	9.4	A	0.1	6	N/A	7.9	A	0.0	18	N/A	7.5	A	0.1	18	None						
	WB	8.0	A	7.6	A	7.5	A	8.1	A	0.1	13		7.6	A	7.6	9		7.6	A	0.1	9							
	NB	24.9	C	10.4	B	9.4	A	28.7	D	3.8	2		10.9	B	10.9	2		9.7	A	0.3	2							
	SB	28.5	C	11.6	B	9.1	A	30.8	D	2.3	0		11.9	B	11.9	0		9.2	A	0.1	0							
Fuerte @ Chase Ln. (TWSC)	EB	7.9	A			7.5	A	7.9	A	0.0	11	N/A	Not Analyzed					7.6	A	0.1	5	None						
	WB	7.6	A		NA	7.7	A	7.7	A	0.1	4		7.7	A	0.0	13	7.7	A	0.0	13								
	NB	13.8	B			11.6	B	14.0	B	0.2	0		11.8	B	0.2	0	11.8	B	0.2	0								
	SB	10.9	B			11.8	B	10.9	B	0.0	0		12.0	B	0.2	1	12.0	B	0.2	1								
Fuerte @ Chase Ave. (OWSC)	WBL	8.8	A	NA	NA	10.5	B	8.8	A	0.0	4	N/A	Not Analyzed					10.6	B	0.1	13	N/A	None					
	NB	12.5	B			28.0	D	12.7	B	0.2	10		Not Analyzed					28.8	D	0.8	5							
	EB	9.0	A			8.3	A	9.0	A	0.0	0	No	Not Analyzed					8.3	A	0.0	1	None						
	WB	8.2	A	NA	NA	10.0	A	8.2	A	0.0	0		10.0	A	0.0	0	10.0	A	0.0	0								
Chase Ave. @ Chase Ln. (TWSC)	NB	32.6	D			41.4	E	32.8	D	0.2	1		Not Analyzed					41.4	E	0.0	0	None						
	SB	-	-			-	-	-	-	0.0	-		Not Analyzed					-	-	0.0	-							
	Fuerte Farms @ Fuerte Dr (OWSC)	NB	24.2	C	NA	NA	10.4	B	26.3	D	2.1	1	N/A	Not Analyzed					10.7	B	0.3	1	N/A	None				
Fuerte Farms @ Damon Ln (OWSC)	EB	9.0	A	8.8	A	8.7	A	9.2	A	0.2	1	N/A	9.2	A	0.4	2.0	N/A	9.1	A	0.4	2	N/A	None					
	WB	-	-	-	-	-	-	8.6	A	-	6	N/A	8.6	A	8.6	4.0	8.6	A	8.6	4								

Delay = seconds of delay per vehicle; LOS = Level of Service; Δ Delay = Increase (Decrease) in delay measured in seconds/vehicle

Sig. ? = County of San Diego's *Guidelines for Determining Significance*; Impact = Significant Direct (Dir) or Cumulative (Cum) Impact;

N/A = Not Applicable because intersection operates at LOS D or better;

NA = Not Analyzed; NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound; WBL = Westbound Left;

OWSC = One-Way Stop-Controlled; ASWC = All-Way Stop-Controlled; Int. = Intersection

Proj. Trips = See Figure 5 For Project Related Peak Hour Trips on Each Critical Movement

Delay = seconds of delay per vehicle; LOS = Level of Service; Δ Delay = Increase (Decrease) in delay measured in seconds/vehicle
 Sig. ? = County of San Diego's Guidelines for Determining Significance; Impact = Significant Direct (Dir) or Cumulative (Cum) Impact;
 N/A = Not Applicable because intersection operates at LOS D or better;
 NA = Not Analyzed; NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound; WBL = Westbound Left;
 OWSC = One-Way Stop-Controlled; ASWC = All-Way Stop-Controlled; Int. = Intersection
 Proj. Trips = See Figure 5 For Project Related Peak Hour Trips on Each Critical Movement

CUMULATIVE CONDITIONS

The County of San Diego has developed an overall programmatic solution that addresses existing and projected future road deficiencies in the unincorporated portions of San Diego County. This program includes the adoption of a Transportation Impact Fee (TIF) program to fund improvements to roadways necessary to mitigate potential cumulative impacts caused by traffic from future development. Based on SANDAG regional growth and land use forecasts, the SANDAG Regional Transportation Model was utilized to analyze projected build-out (year 2030) development conditions on the existing circulation element roadways throughout the unincorporated areas of the County. Based on the results of the traffic modeling, funding necessary to construct transportation facilities that will mitigate cumulative impacts from new development was identified. Existing roadway deficiencies will be corrected through improvement projects funded by other public funding sources, such as TransNet, gas tax, and grants. Potential cumulative impacts to the region's freeways have been addressed in SANDAG's Regional Transportation Plan (RTP). This plan, which considers freeway buildout over the next 30 years, will use funds from TransNet, state, and federal funding to improve freeways to projected level of service objectives in the RTP.

The proposed project generates 480 new average daily trips. These trips will be distributed on circulation element roadways in the County that were analyzed by the TIF program, some of which currently or are projected to operate at inadequate levels of service. The potential growth represented by the proposed project was included in the growth projections upon which the TIF program is based. Therefore, payment of the TIF, which will be required at issuance of building permits, in combination with other components of the program described above, will mitigate potential cumulative traffic impacts to less than significant.

See Section VIII for the calculation of the Traffic Impact Fee that the proposed development will be required to pay to mitigate its potential cumulative impacts. Excerpts from the County's Transportation Impact Fee for the Valle de Oro area can be found in Appendix A.

2030 CONDITIONS

2030 Roadway Network

With the exception of Chase Avenue and State Route 94 east of Avocado Boulevard, all roadway segments in the vicinity of the project are already built out to their ultimate Circulation Element classification, therefore they were analyzed utilizing their existing lane configurations and traffic control. Chase Avenue was assumed to be built out to its ultimate classification of a four-lane Major Road under 2030 conditions. State Route 94 east of Avocado Boulevard was assumed to be improved to the standards of a four-lane freeway. Figure 7 illustrates the lane configurations and traffic control that were assumed to exist in the Year 2030.

2030 Traffic Volumes

To analyze future forecasted traffic within the project area, traffic volumes for all segments, except for Fuerte Drive between Fuerte Farms Road and Damon Lane and Chase Avenue between Bernita Road and Chase Lane, were based on SANDAG's Series 10 model forecast. On the segments of Fuerte Drive between Fuerte Farms Road and Damon Lane and Chase Avenue between Bernita Road and Chase Lane volumes from the County's General Plan (GP)2020 forecasts for the year 2030 were utilized due to the SANDAG's Series 10 2030 model forecast being lower than existing traffic volumes on these segments. (A copy of the 2030 forecasts from the SANDAG 2030 and GP 2020 reports are provided in Appendix A.)

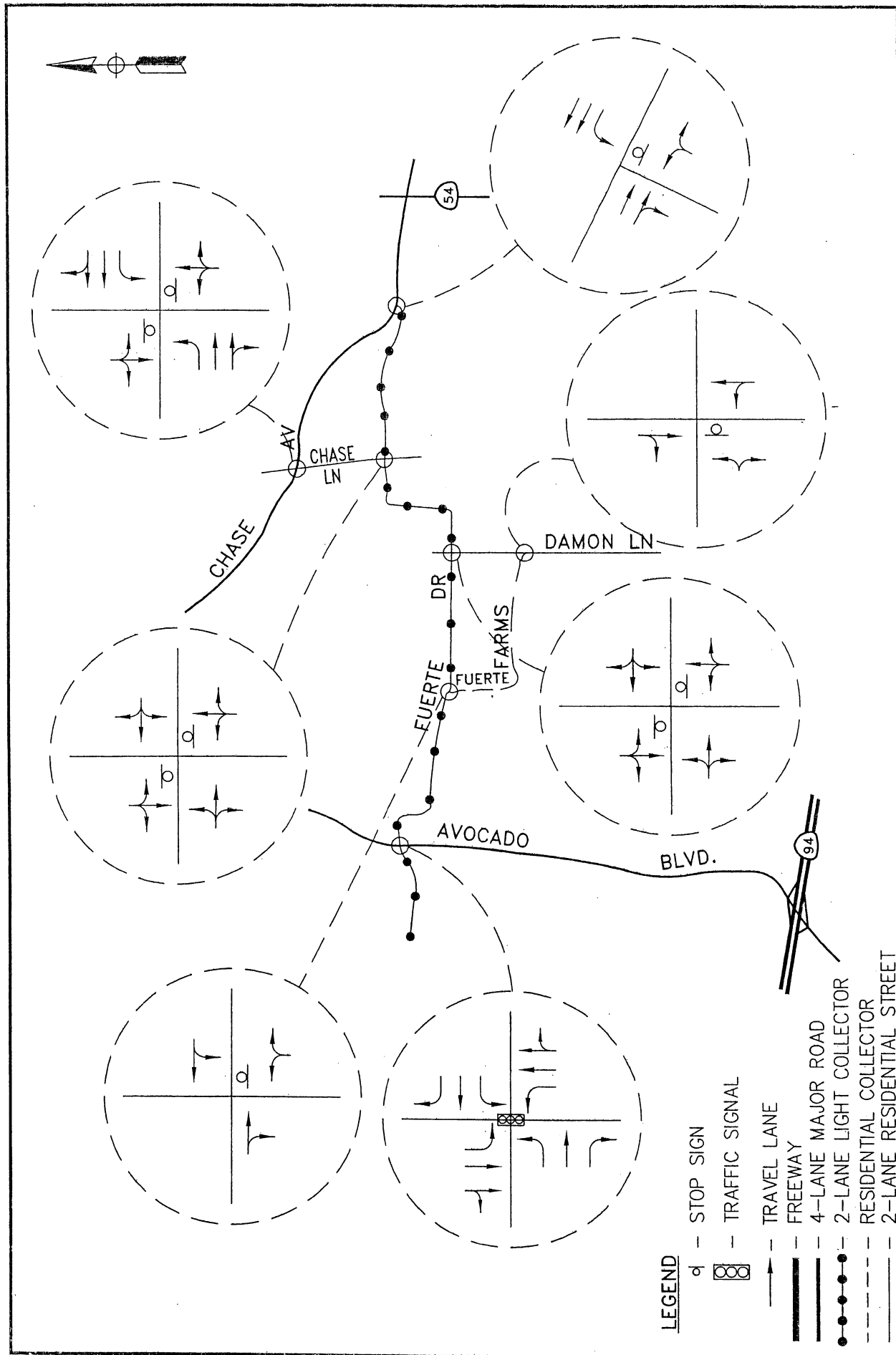


FIGURE 7
2030 CONDITIONS

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As previously discussed, the 2030 Base conditions taken from the SANDAG Series 10 assumed that the project site was developed under its current A72, agricultural zoning to support approximately 6 lots. Therefore, to get the 2030 plus project traffic volumes, the traffic associated with the development of an additional 36 lots (or 408 daily trips, 32 AM peak hour trips, and 41 PM peak hour trips) was added to the 2030 Base volumes. The 2030 Base and 2030 plus project daily and peak hour traffic volumes are illustrated in Figures 8 and 9, respectively.

2030 Levels of Service

Roadway Segments

The roadway segments were analyzed under 2030 with and without project traffic conditions. The roadway segments daily levels of service for 2030 conditions are summarized in Table 8. As shown in Table 8, the following roadway segments operate at LOS E or F under 2030 conditions with or without the proposed project:

- Fuerte Drive west of Avocado Boulevard (operates at LOS E);
- Chase Avenue west of Chase Lane (operates at LOS F);
- Chase Avenue east of Fuerte Drive (operates at LOS F); and
- State Route 94 west of Avocado Boulevard (operates at LOS E).

Under the PFE criteria, a significant impact would result if the project would “significantly impact congestion” on the road segments which currently operates at LOS E or F. The proposed project adds 155 or fewer two-way daily trips to these roadway segments. Since the project traffic added to these segments does not exceed the 200 ADT allowed per the County of San Diego’s *Guidelines for Determining Significance* for a two-lane roadway operating at LOS E or the 200 ADT allowed per the County of San Diego’s *Guidelines for Determining Significance* for a four-lane roadway operating at LOS F, it is concluded that the proposed project will not significantly impact congestion. Thus, the proposed project is not considered to have a significant future impact.

All other roadway segments analyzed operate at an acceptable LOS C or better under 2030 conditions with or without the addition of the proposed project.

Intersections

The results of the intersection analysis for the 2030 conditions are summarized in Table 9. As shown in Table 9, under 2030 condition with or without the proposed project, the following intersections operate at LOS E or F:

- Avocado Boulevard/Fuerte Drive** operates at LOS E during both the AM and PM peak hours under 2030 conditions without the proposed project and continues to operate at LOS E during both the AM and PM peak hours with the addition of the proposed project. Under the PFE criteria, a significant impact would result if the project would “significantly impact congestion” on this intersection which operates at LOS E. Since the proposed project does not change the delay at this intersection, it is concluded that the proposed project will not significantly impact congestion at this intersection. Therefore, the proposed project is not considered to have a significant future impact.

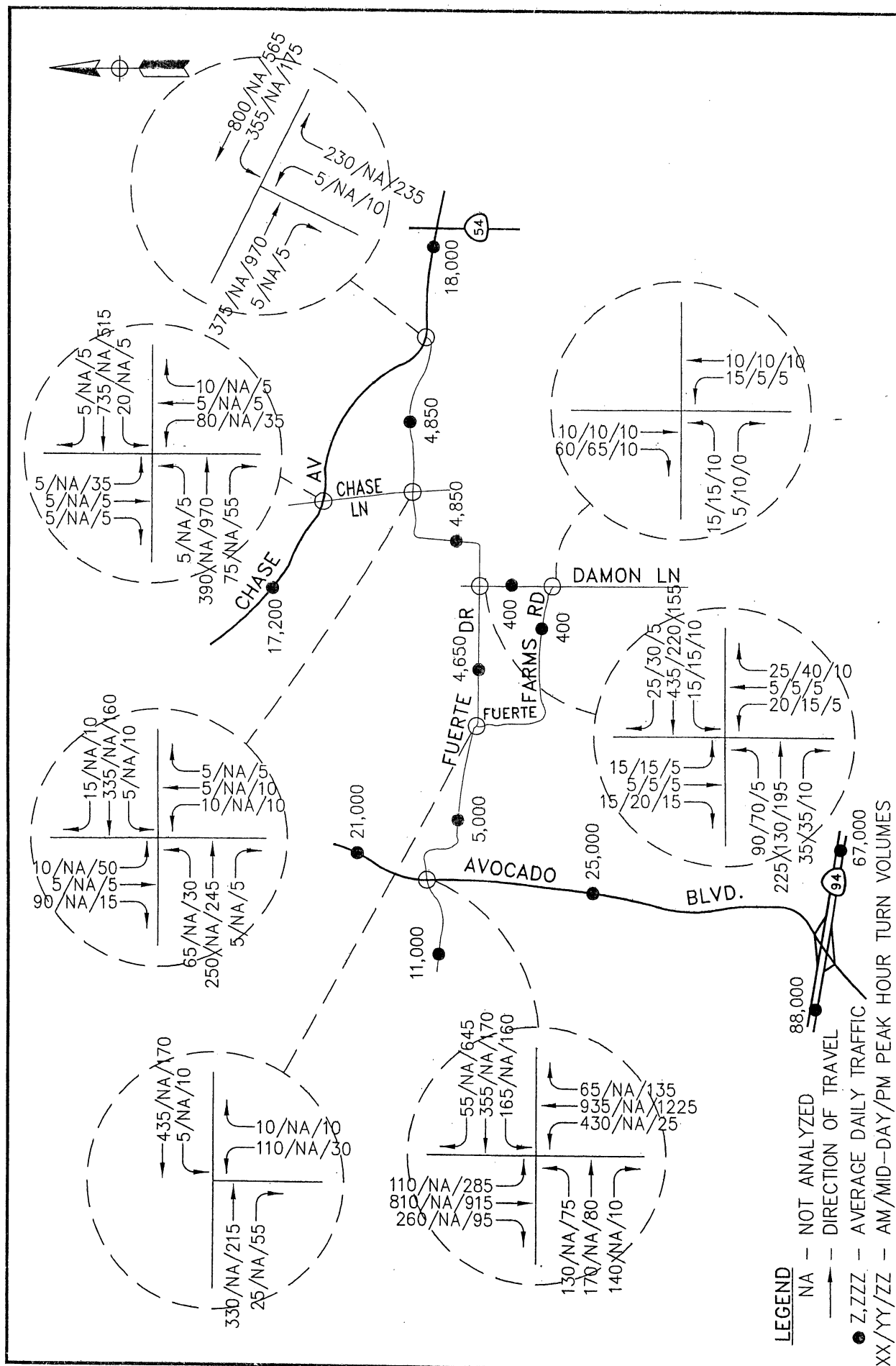


FIGURE 8
2030 BASE TRAFFIC VOLUMES

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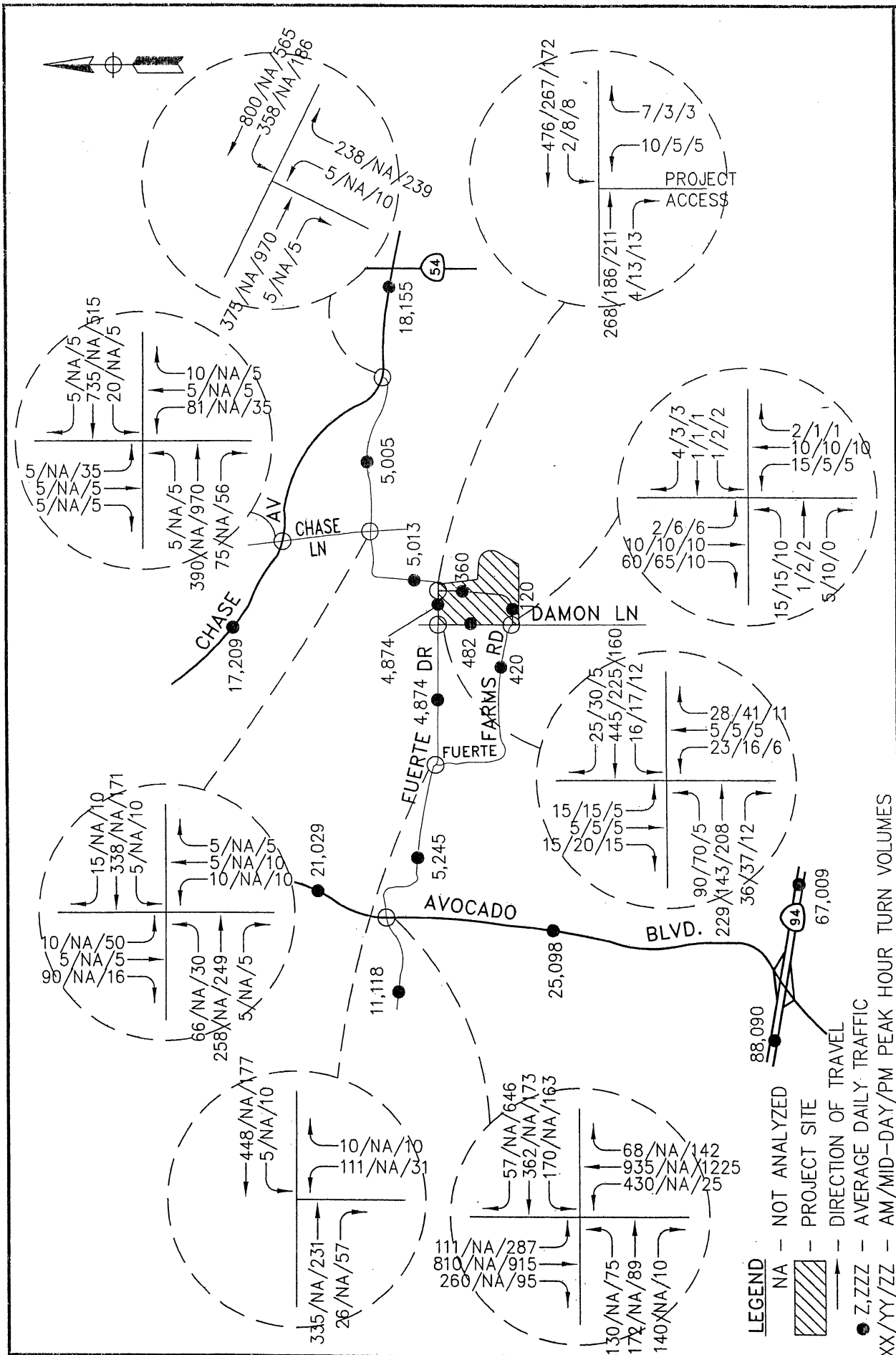


FIGURE 9
2030 PLUS PROJECT TRAFFIC VOLUMES

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Table 8 - 2030 Roadway Segment Daily Level of Service Summary

Roadway Segment	Class	Capacity (a)	2030 Base		Two-Way Project Traffic		2030 + Project		
			A.D.T.	LOS	A.D.T.	LOS	A.D.T.	LOS	Impact
Avocado Boulevard									
-North of Fuerte Drive	4M	33,400	21,000	B	29		21,029	B	None
-South of Fuerte Drive	4M	33,400	25,000	C	98		25,098	C	None
Fuerte Drive									
-West of Avocado Boulevard	LC	10,900	11,000	E	118		11,118	E	None
-Avocado Boulevard to Fuerte Farms Road	LC	10,900	5,000	C	245		5,245	C	None
-Fuerte Farms Road to Damon Lane	LC	10,900	4,650	C	224		4,874	C	
-Damon Lane to Project Access	LC	10,900	4,650	C	224		4,874	C	None
-Project Access to Chase Lane	LC	10,900	4,850	C	163		5,013	C	None
-Chase Lane to Chase Avenue	LC	10,900	4,850	C	155		5,005	C	None
Fuerte Farms Road^(c)									
-Fuerte Drive to Damon Lane	RC	4,500	400	< C	20		420	< C	None
Damon Lane^(c)									
-South of Fuerte Drive	RS	1,500	400	< C	82		482	< C	None
Chase Avenue									
-West of Chase Lane	4M	33,400	17,200	F	9		17,209	F	None
-East of Fuerte Drive	4M	33,400	18,000	F	155		18,155	F	None
State Route 94									
-West of Avocado Boulevard	4F	(b)	88,000	E	90		88,090	E	None
-East of Avocado Boulevard	4F	(b)	67,000	C	9		67,009	C	None

(a) Capacity is based on the upper limit of LOS D per the County of San Diego Level of Service Thresholds

(b) The levels of service for State Route 94 were determined based on the Caltrans District 11 procedures. See Appendix for the calculation worksheets.

(c) Level of Service Thresholds are not typically applied to non-circulation element roads since their primary purpose is to serve abutting lots, not carry through traffic. The capacity shown here is the recommended upper limit of LOS C. < C = the traffic volume is less than the upper limit for LOS C; > C = the traffic volume is greater than the upper limit for LOS C

Significance is based on the County of San Diego's *Guidelines for Determining Significance*

N/A = Not Applicable because segment operates at LOS D or better; LOS = Level of Service; 4F = 4-Lane Freeway; 4M = 4-Lane Major Road; LC = Light Collector; RS = Residential Street;

RC=Residential Collector

Table 9 - 2030 Intersection Level of Service Summary

Intersection	Crit. Move	2030 Base						2030 + Project										Impact						
		AM Peak		Mid-Day		PM Peak		AM Peak				Mid-Day Peak				PM Peak								
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Δ	Proj. Trips	Sig.?	Delay	LOS	Δ	Proj. Trips	Sig.?		Delay	LOS	Δ	Proj. Trips	Sig.?	
Avocado @ Fuerte Dr. (Signalized)	Int.	73.9	E	NA	NA	E	62.2	E	73.9	E	0.0	20	No	Not Analyzed				62.2	E	0.0	25	N/A	None	
Fuerte @ Damon (TWSC)	EB	8.7	B	8.0	A	7.6	A	8.8	A	0.1	5			8.0	A	0.0	15		7.6	A	0.0	15		
	WB	7.8	A	7.6	A	7.7	A	7.9	A	0.1	11		N/A	7.6	A	0.0	7		7.7	A	0.0	7	N/A	
	NB	18.4	C	11.6	B	10.8	B	19.2	C	0.8	6			11.9	B	0.3	2		11.1	B	0.3	2		
	SB	20.0	C	13.0	B	10.4	B	20.5	C	0.5	0			13.3	B	0.3	0		10.5	B	0.1	0		
Fuerte @ Chase Ln. (TWSC)	EB	8.2	A			7.6	A	8.3	A	0.1	9								7.7	A	0.1	4		
	WB	7.8	A	NA	NA	7.8	A	7.8	A	0.0	3		N/A						7.8	A	0.0	11		
	NB	18.1	C			13.0	B	18.5	C	0.4	0								13.2	B	0.2	0		
	SB	12.9	B			13.8	B	13.0	B	0.1	0								14.0	B	0.2	0		
Fuerte @ Chase Ave. (OWSC)	WBL	9.6	A	NA	NA	12.6	B	9.7	A	0.1	3		N/A						12.8	B	0.2	11		
	NB	19.3	C			151.3	F	19.7	C	0.4	8								159.3	F	8.0	4	No	
Chase Ave. @ Chase Ln. (TWSC)	EB	9.4	A			8.6	A	9.4	A	0.0	0								8.6	A	0.0	1		
	WB	8.5	A	NA	NA	10.8	B	8.5	A	0.0	0								10.8	B	0.0	0		
	NB	81.4	F			102.3	F	83.6	F	2.2	1		No						102.3	F	0.0	0	No	
	SB	28.1	D			42.8	E	28.1	D	0.0	0								42.8	E	0.0	0		
Fuerte Farms @ Fuerte Dr (OWSC)	NB	21.8	C	NA	NA	11.5	B	22.7	C	0.9	1		N/A						11.8	B	0.3	1	N/A	None
Fuerte Farms @ Damon Ln (OWSC)	EB	8.8	A	8.8	A	8.7	A	9.1	A	0.3	1		N/A	9.0	A	0.2	2		8.9	A	0.2	2	N/A	None
	WB	-	-	-	-	-	-	8.7	A	8.7	A	6		8.8	A	8.8	6		8.7	A	8.7	6		

Delay = seconds of delay per vehicle; LOS = Level of Service; Δ Delay = Increase (Decrease) in delay measured in seconds/vehicle
Sig. ? = County of San Diego's Guidelines for Determining Significance; Impact = Significant Direct (Dir) or Cumulative (Cum) Impact;
N/A = Not Applicable because intersection operates at LOS D or better;
NA = Not Analyzed; NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound; WBL = Westbound Left;
OWSC = One-Way Stop-Controlled; ASWC = All-Way Stop-Controlled; Int. = Intersection

Delay = seconds of delay per vehicle; LOS = Level of Service; Δ Delay = Increase (Decrease) in delay measured in seconds/vehicle

Sig. ? = County of San Diego's Guidelines for Determining Significance; Impact = Significant Direct (Dir) or Cumulative (Cum) Impact;

N/A = Not Applicable because intersection operates at LOS D or better;

NA = Not Analyzed; NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound; WBL = Westbound Left;

OWSC = One-Way Stop-Controlled; ASWC = All-Way Stop-Controlled; Int. = Intersection

-Fuerte Drive/Chase Avenue operates at LOS F during the PM peak hour on the northbound approach under 2030 conditions with or without the proposed project. Under the PFE criteria, a significant impact would result if the project would “significantly impact congestion” on this intersection which operates at LOS F. The proposed project will add four (4) peak hour trips to the northbound approach. Since the addition of project traffic added to this intersection will only adds four (4) vehicles to the northbound approach, which is less than that allowed per the County of San Diego’s *Guidelines for Determining Significance*, it is concluded that the proposed project will not significantly impact congestion at this intersection. Therefore, the proposed project is not considered to have a significant future impact.

-Chase Avenue/Chase Lane operates at LOS F during both peak hours on the northbound approach and operates at LOS E during the PM peak hour on the southbound approach under 2030 conditions with or without the proposed project. Under the PFE criteria, a significant impact would result if the project would “significantly impact congestion” on this intersection which has critical movements which operate at LOS E or F. Since the addition of project traffic will only add one (1) peak hour trip to the northbound approach and no trips to the southbound approach, which is less than that allowed per the County of San Diego’s *Guidelines for Determining Significance*, it is concluded that the proposed project will not significantly impact congestion at this intersection. Therefore, the proposed project is not considered to have a significant future impact.

All other key intersections will operate at LOS C or better under 2030 conditions with or without the proposed project. The HCS worksheets for the 2030 without and with project conditions can be found in Appendix D and E, respectively.

SECTION V - PROJECT ACCESS & ON-SITE CIRCULATION

PROJECT ACCESS

The project site plan provides two (2) access points to the project site. The main access drive (Street 'A') is off Fuerte Drive approximately 445 feet east of Damon Lane. This access will provide one lane of ingress and one lane of egress and will traverse the project site and connect to the secondary project access (Street 'D'), located at the intersection of Fuerte Farms Road and Damon Lane. The secondary access (Street 'D') will provide one lane of ingress and one lane of egress. At the entrance at Fuerte Drive, Street 'A' is approximately 60 feet wide. At the entrance at Damon Lane, Street 'D' is approximately 40 feet wide.

The project accesses were analyzed utilizing the HCS, version 5.2, assuming that the Fuerte Drive/Street 'A' access would be stop-controlled on the project access (northbound) approach and the Damon Lane/Fuerte Farms Road/Street 'D' access would be stop-controlled on the project access (westbound) approach. The results of the analysis are summarized in Table 10. As shown in Table 10 the proposed project accesses will operate at LOS B or better without the addition of acceleration/deceleration lanes. A copy of the HCS worksheets for the project access analysis can be found in Appendix F.

Table 10 - Project Access Level of Service Summary													
Intersection	Crit. Mvt.	Existing + Project						2030 + Project					
		AM Peak		Mid-Day		PM Peak		AM Peak		Mid-Day		PM Peak	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Fuerte Dr @ Street 'A' (OWSC)	WB	7.7	A	7.6	A	7.6	A	7.8	A	7.7	A	7.7	A
	NB	12.6	B	10.8	B	10.1	B	13.4	B	11.1	B	10.7	B
Fuerte Farms – Street 'D' @ Damon Lane (TWSC)	EB	9.2	A	9.0	A	9.1	A	9.7	A	9.3	A	9.4	A
	WB	8.6	A	8.6	A	8.6	A	9.0	A	9.0	A	8.9	A
OWSC = One-way stop-controlled; LOS = Level of Service, EB = Eastbound Approach, WB = Westbound Approach, NB = Northbound Approach; Delay is measured in seconds of delay per vehicle													

To establish right-of-way control, it is recommended that a stop sign be placed at the project access points. The on-site roads are proposed to be public roads thus the project access points will be intersections of a public-to-public road. Typically, Board approval is required to install a stop sign at the intersection of a public-to-public road. Fuerte Drive is a through street, and Board direction approval for stop signs on public roads intersecting through streets has been provided. Since the Damon Lane/Fuerte Farms Road-Project Access intersection is already stop-controlled on the eastbound approach, the installation of a stop sign on the project access (westbound) approach will not change the flow of existing traffic.

The County Traffic Section in general would like to see left turn pockets installed on County maintained streets when the left turns exceed 300 turns per day. Based on the distribution illustrated in Figure 5, Section III, 72 daily project trips (i.e. 30% of 240 ADT = 72 ADT) will be making a westbound left turn movement from Fuerte Drive into the project site. Therefore, based on the County's general procedures, a westbound left turn pocket will not be required at the project access at Street 'A'. Concern has been raised about the need for a left turn pocket due to the proximity of the school. However, the peak demand

for vehicles turning left into the project site will not correspond to the peak hour traffic associated with the school. Therefore, the addition of a left turn lane at the project access will not significantly improve the traffic conditions associated with the nearby school.

The southbound left turn volume at the Damon Lane/Fuerte Farms-Project access intersection is estimated to be 48 daily project trips (i.e. 20% of 240 ADT = 48 ADT). Therefore, based on the County's general procedures, a southbound left turn pocket will not be required at the Damon Lane/Fuerte Farms-Project access intersection. It should be noted that even if 100% of the project traffic were to utilize the Damon Lane/Fuerte Farms-Project access intersection, the daily southbound left turn volume would be 240 ADT, which is still less than the 300 left turns per day outlined in the County's general procedures. Thus, even if 100% of the project traffic were to utilize the Damon Lane/Fuerte Farms-Project access intersection, a southbound left turn lane would not be required.

Per the County's request, D&A evaluated the need for a westbound left turn lane at the Fuerte Drive/Damon Lane intersection. The existing traffic counts found that there are 136 southbound daily trips on Damon Lane between Fuerte Drive and Fuerte Farms Road. Of these 136 trips, approximately 34%, or 46 daily trips are currently turning left from westbound Fuerte Drive. It is estimated that this volume of westbound left turns will increase to around 70 daily turns by the year 2030. If the 30% of the project traffic (72 ADT inbound) that is entering the project site from the east of Fuerte Drive were to utilize the Fuerte Drive/Damon Lane intersection to enter the project site, the 2030 westbound left turn volume demand at the Fuerte Drive/Damon Lane would be 142 ADT. The County generally does not require that a left turn pocket be installed until either the daily left turn volume exceeds 300 vehicles and/or there is a LOS or safety concern. As was discussed in Section IV, all approaches at the Fuerte Drive/Damon Lane intersection will operate at LOS C or better without the addition of a westbound left turn lane. Therefore, the installation of a westbound left turn lane at the Fuerte Drive/Damon Lane intersection is not required.

DRIVEWAY SPACING

Per the request of the County, D&A measured the distances between the project's proposed access on Fuerte Drive to the neighboring driveways and Damon Lane along Fuerte Drive. The field investigations found that there is an existing driveway located on the north side of Fuerte Drive approximately 91 feet east of Damon Lane. There is a second driveway on the north side of Fuerte Drive approximately 353 feet east of Damon Lane (262 feet east of the first driveway). The proposed project access at Street 'A' is located on the south side of Fuerte Drive approximately 445 feet east of Damon Lane or 92 feet east of the second driveway. A third driveway is located on the north side of Fuerte Drive approximately 573 feet east of Damon Lane or 128 feet east of the proposed project access at Street 'A'.

The County of San Diego requires a minimum intersection spacing of 300 feet along Circulation Element Roads. Thus, the proposed project driveway satisfies the County's spacing requirements between the nearest intersection with Damon Lane. However, the spacing between the driveways along Fuerte Drive does not comply with the County's spacing requirements. County staff has advised the project's Civil Engineer that the spacing between the proposed project entrance and the driveways on the north side of Fuerte Drive is not an issue, and that the project conditions will be written in a way that does not preclude the proposed project entrance from being located as shown on the Tentative Map. The developer will be required to file for a design exception for the minimum separation distance between the driveways as part of the project.

ON-SITE CIRCULATION

The proposed on-site circulation for Fuerte Ranch provides one main north-south access road (Street 'A') which traverses south from Fuerte Drive to the southwestern most dwelling unit at which point it will terminate in a cul-de-sac. An additional cul-de-sac road, Street 'B' (located 260 feet south of Fuerte Drive) and an east-west connector road, Street 'C', (located 870 feet south of Fuerte Drive) branch off of Street 'A' (the main access road). Street 'C' further branches off into a north-south horseshoe configuration to provide access to the lots at the southeastern corner of the project site. Both ends of the horseshoe end in cul-de-sacs.

The County of San Diego has requested that we assess the need for the main project access roads (Street 'A' and Street 'D') to be classified as Residential Collectors (capacity of 4,500 ADT) and whether the roads would be used as a cut through for traffic to avoid the school zone on Fuerte Drive. If the roadway was used as a cut-through to avoid school traffic, vehicles would have to travel on a winding curving roadway that has a lower speed limit than Fuerte Drive, several stop controlled intersections, and the travel time would be greater. School traffic would only cause delays during short periods of time and it is more likely that vehicles would alter their travel time through this area then to use the project roadway as a cut through route. Further, if people wished to divert from Fuerte Drive to avoid the school, the most likely would already be using Damon Lane to get to Fuerte Farms Road to bypass the school. The existing travel patterns do not indicated that this is occurring. It should also be noted that if 100% of the project traffic and all the traffic that currently utilizes Damon Lane were to travel on the project drive, the traffic volume would still be less than 1,500 ADT, the capacity of a Residential Road. Thus, the main project access could adequately accommodate the project traffic and any potential cut-through traffic as a Residential Road.

The developer has coordinated directly with the County of San Diego Land Development section, and the County has agreed that the on-site streets are public roads to be constructed as circulation element residential streets with 56 feet of right-of-way. The main access roads will be designed to provide 40 feet of pavement. All project roadways meet the Public Road County of San Diego's design guidelines for Residential roadways.

SIGHT DISTANCE

D&A conducted field investigations to evaluate the adequacy of sight distance at the project access. Based on the County Public Road Standards, there should be 10 feet (10') of sight distance for every 1 mile per hour (mph) based on the higher of the design speed or prevailing speeds. Speed surveys provided by the County Traffic Engineering department show that the prevailing (85th percentile) speed on Fuerte Drive is 43.2 mph (a copy of the speed survey provided by the County is provided in Appendix H). The design speed for Fuerte Drive is 45 mph. Since the design speed of Fuerte Drive is higher than the prevailing speeds, the design speed governs the corner sight distance requirements. Based on the design speed of 45 mph, a minimum of 450 feet of sight distance will be required.

At a point 15 feet back from the edge line on Fuerte Drive, there is approximately 139 feet of sight distance looking to the east of the project access and approximately 116 feet looking to the west of the project access. The sight distance is obstructed by the existing fence line and shrubbery along the project frontage on Fuerte Drive. These obstructions will be removed with the development of the proposed project.

Further, at a point 10 feet back from the edge line on Fuerte Drive, there is approximately 505 feet of sight distance looking to the east of the project access and approximately 463 feet looking to the west of the project access. Looking at the project access from the west on Fuerte Drive (eastbound traffic) there

is approximately 475 feet of sight distance while there is approximately 500 feet of sight distance looking from the east on Fuerte Drive (westbound traffic). Therefore, sight distance at the project access will be adequate. Once the project site is graded, the project Civil Engineer will need to certify that the appropriate clear zones and a minimum of 450 feet of sight distance are provided.

Per the request of the County, D&A also evaluated the adequacy of sight distance at the Fuerte Drive/Damon Lane intersection. Field investigations found that there is approximately 373 feet of sight distance looking at Fuerte Drive to the west of Damon Lane and approximately 365 feet of sight distance looking at Fuerte Drive to the east of Damon Lane. The sight distance looking to the east of Damon Lane can be improved to the required 450 feet by removing the trees and shrubs along the project frontages, which are already planned to be removed as part of the development of the project. The sight distance looking to the west of Damon Lane was obstructed by the vehicles that were parking at the southwest corner of Damon Lane. If the parking along the south side of Fuerte Drive for approximately 240 feet west of Damon Lane is restricted and the County prohibits parking within the public right-of-way, the minimum 450 feet of sight distance should be able to be satisfied. Once the project site is graded, the project Civil Engineer will need to certify that the appropriate clear zones and a minimum of 450 feet of sight distance are provided. Since the proposed project will add traffic to Damon Lane, the developer will submit a request to the Traffic Advisory Committee (TAC) to restrict parking along the south side of Fuerte Drive for approximately 240 feet west of Damon Lane.

Looking at Damon Lane from the west on Fuerte Drive (eastbound traffic), there is approximately 490 feet of sight distance while there is over 550 feet of sight distance looking from the east on Fuerte Drive (westbound traffic). Therefore, sight distance looking at Damon Lane is in compliance with County requirements.

Photographs illustrating the existing sight distance at the project access and at Damon Lane are provided in Appendix G.

SECTION VI - CONSTRUCTION TRAFFIC

The final earthwork for the site has not been finalized, but it is anticipated that the site will be balanced between import and export. As a worst case scenario, we assumed that approximately 10,000 cubic yards of import material will be required during the grading operation for the project. Assuming a truck load capacity of 12 cubic yards per truck, approximately 834 truck loads or 1,667 two-way truck trips will be required to import the 10,000 cubic yards of material (i.e. 10,000 cubic yards X 1 truck Load/12 cubic yards X 2 trips/truck load = 1,667 truck trips). The grading operation is estimated to take 2 to 3 months. Assuming there is five working days per week and four weeks per month, there will be approximately 20 working days per month. If the grading operation takes place over 2 months there will be a total of 40 working days. If the truck loads are distributed evenly throughout the 2 month duration, there will be approximately 42 two-way truck trips per day (i.e. 1,667 truck trips/40 working days = 42 truck trips/day).

The import material will mostly likely come from the east county, along Jamacha Road to Chase Avenue and down to Fuerte Drive to the project. As was discussed in Section III, the proposed project is estimated to generate 480 average daily trips with 40% of the trips, or 192 daily trips, being assigned to the east along Fuerte Drive to Chase Avenue. This is more traffic than the 42 daily trips that will be added during the grading operation of the project site. Therefore, the grading operation will not create any additional traffic impacts over those associated with the proposed project itself.

SECTION VII - COMMUNITY CONCERNS/ISSUES

VALLE DE ORO COMMUNITY PLANNING GROUP

Review of the November 18, 2003 minutes from the Valle De Oro Community Planning Group (VDOCPG) found that the planning group is concerned that the proposed project will significantly increase traffic and create adverse impacts to the area. The following summarizes the VDOCPG concerns related to traffic and D&A's responses to those concerns.

VDOCPG Concern 1:

"The proposed project allowing a 300% increase in density would result in the addition of over 460 new trips on Fuerte Drive and surrounding roads. Our experience and public testimony indicate that such an increase would create significant adverse impacts on Fuerte Drive west to I-8 and east to the Chase/Jamacha intersection."

D&A Response 1:

As was discussed in Section IV of the traffic study, Fuerte Drive between Avocado Boulevard and Chase Avenue was found to operate at an acceptable level of service C or better with or without the addition of the proposed project. The proposed project was not found to have a significant impact on Fuerte Drive.

Fuerte Drive west of Avocado Boulevard and Chase Avenue east of Fuerte Road were found to operate at LOS E or worse under 2030 conditions with or without the proposed project.

As was illustrated in Figure 5 located in Section III of this report, the proposed project is estimated to add 11 two-way AM peak hour trips (3 eastbound, 8 westbound), and 14 two-way PM peak hour trip (10 eastbound, 4 westbound) to Fuerte Drive west of Avocado Boulevard. If it is assumed that all of this traffic will be entering onto Interstate 8 via one ramp at Fuerte Drive, there will be approximately 1 vehicle every 7.5 minutes during the AM peak hour and there will be approximately 1 vehicle every 15 minutes during the PM peak hour added to the ramp volumes. This volume of traffic will not be enough to create a significant direct impact.

Figure 5 (located in Section III), also shows that the proposed project is estimated to assign 14 two-way AM peak hour trips (10 eastbound, 4 westbound) and 18 two-way PM peak hour trips (5 eastbound, 13 westbound) to Chase Avenue east of Fuerte Drive. If it is assumed that all of this traffic will utilize the Chase Avenue/Jamacha Road intersection, the proposed project would add approximately 1 vehicle to through the intersection every 4.3 minutes during the AM peak hour and every 3.3 minutes during the PM peak hour. This volume of traffic will not be enough to create a significant direct impact.

VDOCPG Concern 2A:

“Traffic conditions around the adjacent Fuerte Elementary school are chaotic during morning and afternoon drop-off/pick-up times.”

D&A Response 2A:

The analysis of the Fuerte Drive/Damon Lane intersection provided in Section IV showed that the intersection operated at an acceptable level of service during both the morning drop-off and mid-day pick-up time frames associated with the Fuerte Elementary School. D&A also conducted field observations to observe the traffic conditions around the Fuerte Elementary school during the morning and afternoon drop-off/pick-up times. The field observations found the following conditions to exist:

AM Drop-Off (7:25 to 8:25 AM) - Drivers traveling eastbound park on the south side of Fuerte Drive in front of the school, they drop-off the passengers, then either (1) continue traveling eastbound; (2) make a U-turn mid-block in front of the school, or make a left turn onto Marcia Lane to travel around Vernet Court and Vernet Drive to head back to the west on Fuerte Drive. D&A did observe that some vehicles temporarily double-parked along Fuerte Drive. Other drivers traveling eastbound on Fuerte Drive turn right into the school parking lot.

Vehicles traveling westbound on Fuerte Drive were observed to (1) park along the north side of Fuerte Drive in front of the school to drop-off the passengers, (2) turn left into the school parking lot; (3) making a mid-block u-turn in front of the school and then park their vehicle on the south side of Fuerte Drive to drop-off passengers then either travel back to the east on Fuerte Drive or they make another mid-block u-turn to continue westbound on Fuerte Drive.

PM Pick-Up - (1:25 to 2:25 PM) - Vehicles were observed to park along both sides of Fuerte Drive, with some vehicles being double parked, to wait for school to get out. Some vehicles were observed backing into the school driveway such that could park diagonally in front of the school parking lot. Vehicles queued up at the school parking lot entrance which forced other drivers to utilize the center two-way left turn lane on Fuerte Drive to get around. As with the AM peak hour, vehicles were making u-turns at the Fuerte Drive/Damon Lane, making mid-block u-turns, and using Marcia Lane to travel back around Vernet Court and Vernet Drive to continue westbound on Fuerte Drive.

Based on the above observations, D&A agrees that the conditions surrounding the Fuerte Elementary School could become chaotic at times. However, the condition only exists for approximately 30 minutes during the morning and 30 minutes during the afternoon. In addition, a review of the collision history along Fuerte Drive found that there was only one (1) collision reported since January 1999. The collision occurred on Saturday, June 26, 1999 when school was not in operation. (A copy of the collision report is provided in Appendix H.)

The “chaotic” conditions surrounding the Fuerte Elementary School will exist with or without the development of the proposed project. The operation issues/concerns on Fuerte Drive have been brought to the attention of the County Traffic Operations staff and the County staff is currently working with the Fuerte Drive Residential Traffic Committee to address their concerns.

VDOCPG Concern 2B

“The Fuerte/Avocado intersection has far more collisions than any other intersection along Avocado Boulevard.”

D&A Response 2B:

D&A obtained the collision history at the Fuerte Drive/Avocado Boulevard intersection and found that there were four (4) reported collisions in 1999, four (4) reported collisions in 2000, five (5) reported collisions in 2001, no reported collisions in 2002, and only one (1) reported collision in 2003. This trend shows that the number of collisions at the Fuerte Drive/Avocado Boulevard intersection have declined since 2001. A copy of the collision report is provided in Appendix H.

VDOCPG Concern 2C:

“Eastbound traffic on Fuerte backs up from Avocado to Calavo and from Grossmont Blvd. to the I-8 ramps and down the ramps to the point that up to three or four signal cycles are required to pass through the Fuerte/I-8 ramp signal (Level of Service “F”). Westbound Fuerte traffic backs up from the I-8 entry ramp to El Granito Avenue. Similar problems are reported at the Chase/Jamacha intersection.”

D&A Response 2C:

As was discussed in the response the Concern 1, the Fuerte Drive/I-8 ramps and the Chase Avenue/Jamacha Road intersections were not analyzed, however, the project is estimated to add one (1) vehicle every 3.3 to 15 minutes to these intersections (see Response 1 for specific volumes). This increase in traffic will not be noticeable to the average driver.

VDOCPG Concern 3:

“Since all traffic related to this project will have to use Fuerte Drive and Fuerte Drive and its major intersections are over stressed under existing conditions, a 300% increase in density is in appropriate for this property.”

D&A Response 3:

It is not known where the author of this comment got his/her information, however, as was illustrated in Sections II and IV of this report, the Fuerte Drive/Avocado Boulevard and Fuerte Drive/Damon Lane intersections operate at LOS D or better under existing conditions. Further Fuerte Drive east of Avocado Boulevard was found to operate at LOS B under existing conditions. Thus the existing traffic count information and analysis did not find Fuerte Drive and its major intersections in the vicinity of the proposed project to be over stressed.

COMMUNITY COMMENTS

Tim Carpenter Letter:

“This developer is clearly attempting to maximize profits with total disregard to the character and safety of the surrounding Mt. Helix community. Equally important is the project ingress and egress of 406+ car trips per day on Fuerte Drive (based on 46 dual income homes), directly next to an elementary school, with blind approaches in either direction is nothing short of an accident on its way to happen.”

D&A Response to Mr. Carpenter:

As was discussed in Section V, D&A conducted field investigations to assess the adequacy of sight distance at the proposed project driveway along Fuerte Drive. The field investigations found that at a point 10 feet back from the edge line on Fuerte Drive, there is approximately 505 feet of sight distance looking to the east of the project access and approximately 463 feet looking to the west of the project access. Looking at the project access from the west on Fuerte Drive (eastbound traffic) there is approximately 475 feet of sight distance while there is approximately 500 feet of sight distance looking from the east on Fuerte Drive (westbound traffic). The County requires a minimum corner sight distance on one foot (1') for every mile per hour. The design speed for Fuerte Drive in front of the project access is 45 miles per hour, yielding minimum sight distance requirement of 450 feet. Therefore, the sight distance at the proposed project access was determined to be adequate.

Further, with the development of the proposed project the existing fence line and shrubbery on the south side of Fuerte Drive along the project frontage will be removed, thus providing even more sight distance than that what was measured in the field.

From Letter from mHANDS Concerns:

“As a supporter of mHANDS (Mt. Helix Residents Developing Safer Streets) I am concerned that any changes and/or amendments in relation to increased density for this parcel in the 2020 plan would greatly impact our already existing traffic challenges throughout the Mt. Helix rural area.”

D&A Response to mHands:

As was illustrated in Section IV of the traffic study, the proposed project will not significantly impact any of the adjacent intersections. In addition, the proposed project will not significantly impact Fuerte Drive in the immediate vicinity of the project. The following section, Section VIII summarizes the measures the developer will make to mitigate its cumulative impacts.

SECTION VIII - MITIGATION

DIRECT IMPACTS

Roadway Segments

- The project does not have a significant direct impact on any of the analyzed roadway segments.

Intersections

- The project does not have a significant direct impact on any of the analyzed intersections.

CUMULATIVE IMPACTS

Due to the project's potential to send at least 1 trip on a County circulation element roadway that either currently operates or is projected to operate at LOS E or F, the project will need to pay the County's Transportation Impact Fee (TIF) to mitigate cumulative impacts. As seen below in Table 11, based on the fees for the Valle De Oro (last updated March 7, 2006) the TIF for the proposed project will be \$276,560.00. It should be noted that the actual fee is subject to change as the TIF Ordinance is updated annually and the fees are adjusted to reflect the engineering cost index. The developer has agreed to pay the TIF to mitigate the project's potential cumulative impacts to the County roadways.

Table 11 - Transportation Impact Fee (TIF) Summary			
Land Use	Number of Units	Cost per Unit	Total Cost
Estate Residential	40	\$6,914	\$276,560
Total Cost = Cost per Unit × Number of Units. Cost per unit based on fees for Valle De Oro, last updated March 7, 2006 Note: The actual fee is subject to change as the TIF Ordinance is updated annually and the fees are adjusted to reflect the engineering cost index			

FUTURE IMPACTS

Roadway Segments

- The project does not have a significant future impact on any of the analyzed roadway segments.

Intersections

- The project does not have a significant future impact on any of the analyzed intersections.

PROJECT MITIGATION

Roadway Segments

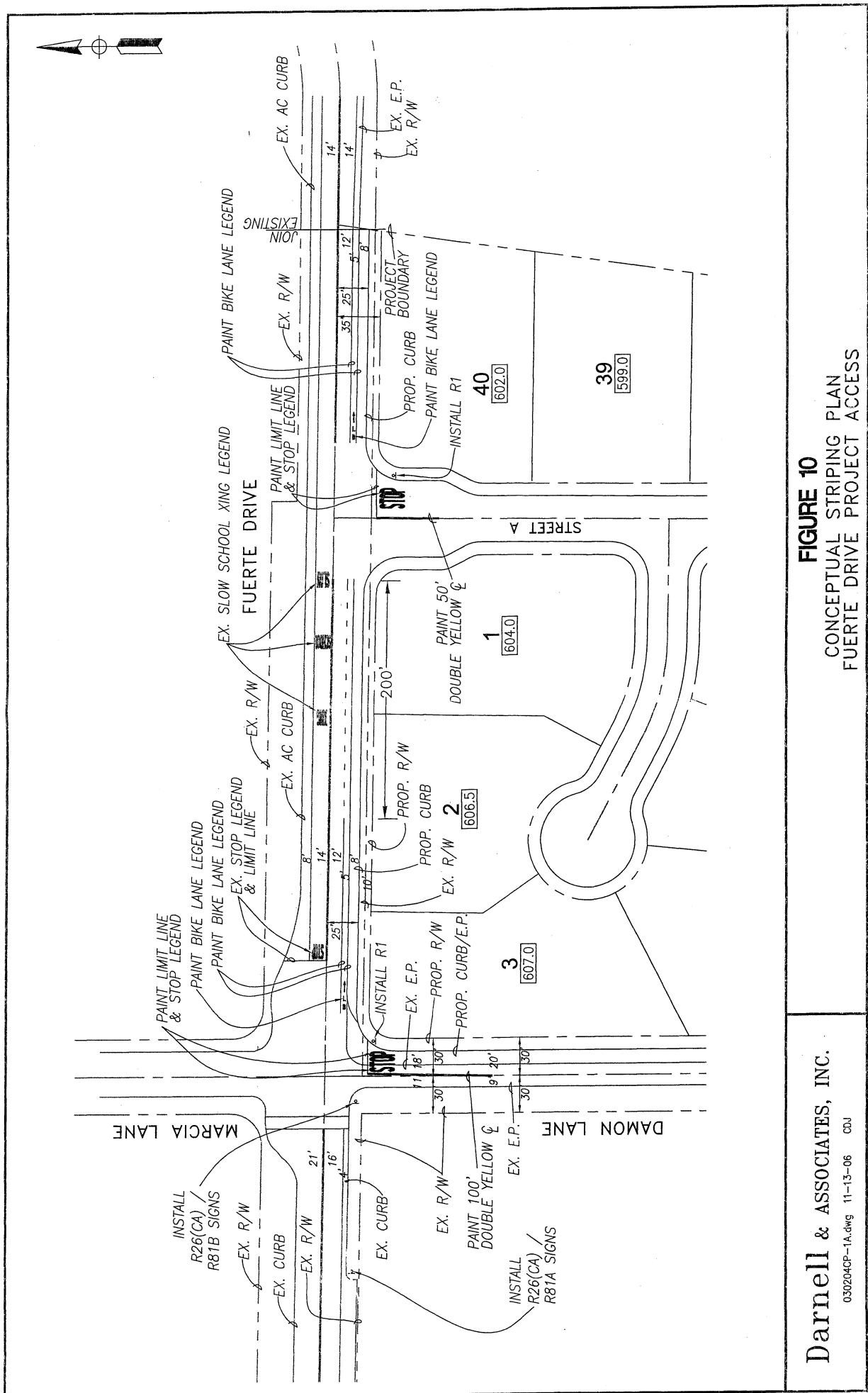
- As part of the County's center-line ordinance, the proposed project will be responsible for frontage improvements along Fuerte Drive. To comply with the County's ordinance, the developer proposes to widen the pavement width of Fuerte Drive along the project frontage by five feet (5') to make accommodations for a future bike lane. Figure 10 provides illustrations of the proposed improvements on Fuerte Drive. As shown in Figure 10, with the proposed widening the cross section

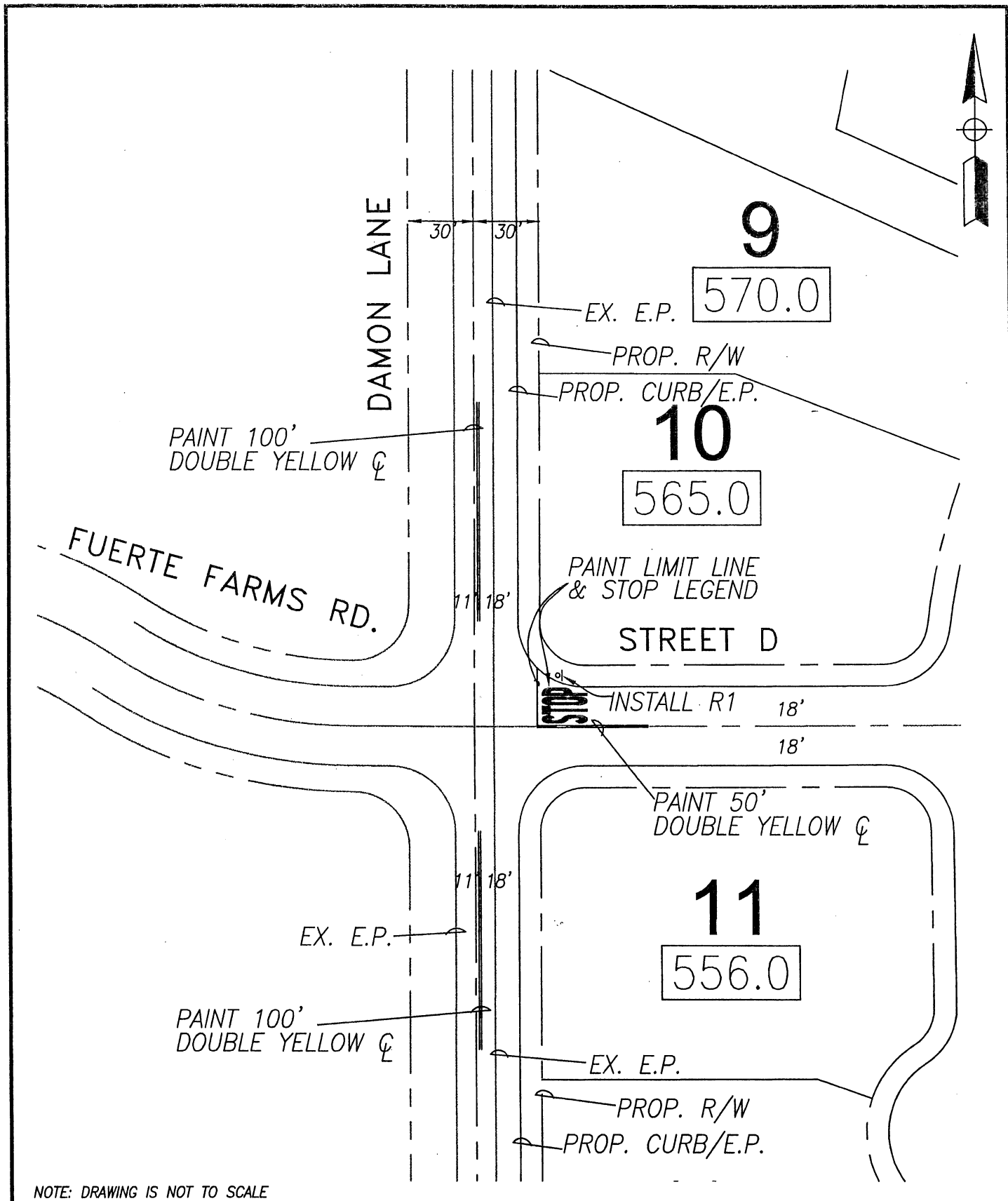
of Fuerte Drive along the project's frontage will provide one (1) fourteen foot (14') westbound travel lane, one (1) twelve foot eastbound travel lane, eight foot (8') shoulders on both sides of the roadway, and a five foot (5') bike lane on the south side of the roadway.

- The initial conditions established by the County requested that the proposed project improve or agree to improve and provide security for Damon Lane from Fuerte Drive to Fuerte Farms Road, to Public Residential Collector Road Standards to a one-half graded width of thirty feet (30') with twenty feet (20') of asphaltic concrete pavement from center line. The developer is proposing to make the required frontage improvements on Damon Lane. Figure 11 provides illustrations of the proposed improvements on Damon Lane.

Intersections

- To establish right-of-way control, it is recommended that a stop-sign be placed at both project access points off Fuerte Drive and Damon Lane. As previously noted, the on-site roads are proposed to be public roads thus the project access points will be intersections of a public to public road. Typically Board approval is required to install a stop sign at the intersection of a public to public road. Fuerte Drive is a through street, and Board direction approval for stop signs on public roads intersecting through streets has been provided. Since the Damon Lane/Fuerte Farms Road-Project Access intersection is already stop-controlled on the eastbound approach, the installation of a stop sign on the project access (westbound) approach will not change the flow of existing traffic.
- Once grading on the project site is complete, the project Civil Engineer will need to certify that a minimum of 450 feet of sight distance is provided at its project access on Fuerte Drive.
- To improve the sight distance at the Fuerte Drive/Damon Lane intersection, the County will need to restrict parking along the south side of Fuerte Drive for approximately 240 feet west of Damon Lane and prohibit parking within the public right-of-way. Once the project site is graded, the project Civil Engineer will need to certify that the appropriate clear zones and a minimum of 450 feet of sight distance are provided. Since the proposed project will add traffic to Damon Lane, the developer will submit a request to the Traffic Advisory Committee (TAC) to restrict parking along the south side of Fuerte Drive for approximately 240 feet west of Damon Lane.





Darnell & ASSOCIATES, INC.

030204CP-1A.dwg 11-13-06B

FIGURE 11
CONCEPTUAL STRIPING PLAN
DAMON LANE PROJECT ACCESS

SECTION IX - SUMMARY OF FINDINGS AND CONCLUSIONS

- The developer proposes to construct 40 single-family estate homes (Fuerte Ranch Estates) on a 26.87 acre site located at the southeast corner of Fuerte Drive and Damon Lane in the County of San Diego.
- The project site's current zoning is A72, an agricultural use with a minimum lot size of four acres to yield a potential of six (6) lots (i.e. $26.87 \text{ acres} \div 4 \text{ acres} = 6.7 \text{ lots}$). Since the project proposes to construct 34 more lots than the site is currently zoned for a re-zone is required.
- The proposed Fuerte Ranch Estates is estimated to generate 480 average daily trips, 38 AM peak hour trips, and 48 PM peak hour trips.
- The proposed Fuerte Ranch Estates does not have a significant direct impact or future impact on any roadway segment or intersection analyzed.
- To account for any cumulative impacts on County roads, the project intends on paying the County's TIF in the amount of \$276,560. It should be noted that the actual fee is subject to change as the TIF Ordinance is updated annually and the fees are adjusted to reflect the engineering cost index.
- As part of the County's center-line ordinance, the proposed project will be responsible for frontage improvements along Fuerte Drive. To comply with the County's ordinance, the developer proposes to widen the pavement width of Fuerte Drive along the project frontage by five feet (5') to make accommodations for a future bike lane. With the proposed widening, the cross section of Fuerte Drive along the project's frontage will provide one (1) fourteen foot (14') westbound travel lane, one (1) twelve foot eastbound travel lane, eight foot (8') shoulders on both sides of the roadway, and a five foot (5') bike lane on the south side of the roadway.
- The developer intends to widen Damon Lane from Fuerte Drive to Fuerte Farms Road, to Public Residential Collector Road Standards to a one-half graded width of thirty feet (30') with twenty feet (20') of asphaltic concrete pavement from center line. The developer is proposing to make the required frontage improvements on Damon Lane.
- To establish right-of-way control, it is recommended that a stop-sign be placed at both project accesses off Fuerte Drive and Damon Lane. The on-site roads are proposed to be public roads thus the project access points will be intersections of a public to public road. Typically Board approval is required to install a stop sign at the intersection of a public to public road. Fuerte Drive is a through street, and Board direction approval for stop signs on public roads intersecting through streets has been provided. Since the Damon Lane/Fuerte Farms Road-Project Access intersection is already stop-controlled on the eastbound approach, the installation of a stop sign on the project access (westbound) approach will not change the flow of existing traffic.
- To improve the sight distance at the Fuerte Drive/Damon Lane intersection, the developer will submit a request to the Traffic Advisory Committee (TAC) to restrict parking along the south side of Fuerte Drive for approximately 240 feet west of Damon Lane
- Once grading on the project site is complete, the project Civil Engineer will need to certify that a minimum of 450 feet of sight distance is provided at the project access on Fuerte Drive.

APPENDIX A

- AM/PM Peak Hour Traffic Counts
 - 24-Hour Machine Counts
 - SANDAG Trip Generation Rates
- County of San Diego Level of Service Thresholds
- County of San Diego *Guidelines for Determining Significance*
 - Excerpts from the Public Facility Element
 - Forecast Volumes
- County TIF Fee for the Valle De Oro Region

1. 1954-1955

2. 1956-1957

3. 1958-1959

4. 1960-1961

5. 1962-1963

6. 1964-1965

7. 1966-1967

8. 1968-1969

9. 1970-1971

AM/PM Peak Hour Traffic Counts

A1

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Avocado Blvd

DATE: 1/26/2006

LOCATION: City of El Cajon

E-W STREET: Fuerte Dr

DAY: THURSDAY

PROJECT# 06-4033-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 1	WL 1	WT 1	WR 1	TOTAL
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	90	87	10	9	126	26	5	13	21	14	37	12	450
7:15 AM	84	150	7	5	132	41	15	12	24	17	49	4	540
7:30 AM	92	170	8	12	153	50	26	22	23	16	42	4	618
7:45 AM	67	199	26	49	193	42	25	59	21	41	67	9	798
8:00 AM	90	209	6	6	153	43	20	17	39	49	72	18	722
8:15 AM	67	145	12	2	139	25	30	8	35	16	33	10	522
8:30 AM	45	163	11	6	140	19	17	23	44	20	16	5	509
8:45 AM	56	133	13	5	156	37	13	7	39	13	18	2	492
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	NL 591	NT 1256	NR 93	SL 94	ST 1192	SR 283	EL 151	ET 161	ER 246	WL 186	WT 334	WR 64	TOTAL 4651

AM Peak Hr Begins at: 715 AM

PEAK VOLUMES =	333	728	47	72	631	176	86	110	107	123	230	35	2678
PEAK HR. FACTOR:		0.908			0.774			0.721			0.698		0.839

CONTROL: Signalized

A2

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Avocado Blvd

DATE: 1/26/2006

LOCATION: City of El Cajon

E-W STREET: Fuerte Dr

DAY: THURSDAY

PROJECT# 06-4033-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 1	WL 1	WT 1	WR 1	TOTAL
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	5	217	20	45	193	9	16	15	1	33	44	97	695
4:15 PM	5	196	35	42	190	12	15	12	2	24	26	96	655
4:30 PM	5	204	38	35	178	7	14	12	0	31	24	121	669
4:45 PM	1	241	18	50	153	21	17	11	2	31	35	115	695
5:00 PM	1	244	25	47	208	16	11	15	3	25	22	97	714
5:15 PM	10	266	20	53	174	19	6	13	1	30	30	91	713
5:30 PM	6	223	23	35	171	21	16	7	2	19	24	105	652
5:45 PM	4	205	17	40	179	14	15	8	0	33	27	90	632
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	37	1796	196	347	1446	119	110	93	11	226	232	812	5425

PM Peak Hr Begins at: 430 PM

PEAK	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	17	955	101	185	713	63	48	51	6	117	111	424	2791
PEAK HR. FACTOR:		0.906			0.887			0.875			0.901		0.977

CONTROL: Signalized

A3

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Fuerte Farms Rd

DATE: 1/26/2006

LOCATION: City of El Cajon

E-W STREET: Fuerte Dr

DAY: THURSDAY

PROJECT# 06-4033-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 0	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	7	0	3					32	1	1	47		91
7:15 AM	3	0	1					26	2	1	52		85
7:30 AM	13	0	1					56	5	0	63		138
7:45 AM	38	0	3					117	4	1	98		261
8:00 AM	17	0	1					18	5	1	73		115
8:15 AM	7	0	1					16	0	1	35		60
8:30 AM	8	1	3					24	5	0	31		72
8:45 AM	2	0	1					11	1	1	21		37
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	NL 95	NT 1	NR 14	SL 0	ST 0	SR 0	EL 0	ET 300	ER 23	WL 6	WT 420	WR 0	TOTAL 859

AM Peak Hr Begins at: 715 AM

PEAK VOLUMES =	71	0	6	0	0	0	0	217	16	3	286	0	599
PEAK HR. FACTOR:	0.470			0.000			0.481			0.730			0.574

CONTROL: 1-WayStop NB

A4

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Fuerte Farms Rd

DATE: 1/26/2006

LOCATION: City of El Cajon

E-W STREET: Fuerte Dr

DAY: THURSDAY

PROJECT# 06-4033-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	1	0	0	0	0	0	1	0	0	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	1	0	2					11	4	1	17		36
4:15 PM	6	0	2					37	9	4	35		93
4:30 PM	5	0	0					39	11	1	24		80
4:45 PM	5	0	2					31	6	1	33		78
5:00 PM	3	0	1					35	7	1	20		67
5:15 PM	0	0	2					46	4	1	23		76
5:30 PM	4	0	3					38	2	1	33		81
5:45 PM	6	1	2					33	9	2	15		68
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	30	1	14	0	0	0	0	270	52	12	200	0	579

PM Peak Hr Begins at: 415 PM

PEAK	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	19	0	5	0	0	0	0	142	33	7	112	0	318
PEAK HR.													
FACTOR:	0.750			0.000			0.875			0.763			0.855

CONTROL: 1-WayStop NB

AS

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Damon Ln

DATE: 1/25/2006

LOCATION: City of El Cajon

E-W STREET: Fuerte Dr

DAY: WEDNESDAY

PROJECT# 06-4033-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	0	0	1	3		1	2	32	0	1	49	2	91
7:15 AM	2	0	0	0		3	1	15	1	0	53	1	76
7:30 AM	1	0	1	4		3	8	29	4	2	81	2	135
7:45 AM	8	1	13	3		2	49	79	17	7	118	10	307
8:00 AM	7	0	2	4		3	6	24	3	2	33	0	84
8:15 AM	2	0	1	2		2	0	17	0	0	30	1	55
8:30 AM	1	0	2	1		2	1	17	1	0	22	2	49
8:45 AM	1	0	1	2		0	1	10	1	0	25	0	41
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	NL 22	NT 1	NR 21	SL 19	ST 0	SR 16	EL 68	ET 223	ER 27	WL 12	WT 411	WR 18	TOTAL 838

AM Peak Hr Begins at: 700 AM

PEAK VOLUMES =	11	1	15	10	0	9	60	155	22	10	301	15	609
PEAK HR. FACTOR:		0.307			0.679			0.409			0.604		0.496

CONTROL: , , , , , 2 way stop

AG

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Damon Ln

DATE: 1/25/2006

LOCATION: City of El Cajon

E-W STREET: Fuerte Dr

DAY: WEDNESDAY

PROJECT# 06-4033-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	
1:00 PM	0		1	1	0	3	0	18	1	2	23	2	51
1:15 PM	0		0	0	0	1	1	10	1	0	30	3	46
1:30 PM	0		2	0	0	3	3	12	3	1	39	2	65
1:45 PM	3		6	0	0	1	12	35	14	6	37	5	119
2:00 PM	3		13	7	0	4	26	27	5	2	44	10	141
2:15 PM	2		4	1	1	4	5	16	0	0	30	1	64
2:30 PM	0		2	1	0	0	0	23	2	0	19	0	47
2:45 PM	0		2	3	0	3	1	34	1	0	19	1	64
3:00 PM	4		0	0	0	1	1	27	0	0	26	1	60
3:15 PM	0		2	0	0	2	4	38	0	0	37	2	85
3:30 PM	0		2	0	0	0	2	20	0	1	18	1	44
3:45 PM	1		2	1	0	1	2	43	1	0	22	3	76

TOTAL VOLUMES =	NL 13	NT 0	NR 36	SL 14	ST 1	SR 23	EL 57	ET 303	ER 28	WL 12	WT 344	WR 31	TOTAL 862
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MID Peak Hr Begins at: 130 PM

PEAK VOLUMES =	8	0	25	8	1	12	46	90	22	9	150	18	389
PEAK HR. FACTOR:		0.516			0.477			0.648			0.790		0.690

CONTROL:

A7

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Damon Ln

DATE: 1/25/2006

LOCATION: City of El Cajon

E-W STREET: Fuerte Dr

DAY: WEDNESDAY

PROJECT# 06-4033-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	0		2	0	0	5	0	37	1	1	26	0	72
4:15 PM	1		0	0	0	3	2	25	2	0	35	0	68
4:30 PM	1		2	0	0	1	0	40	2	4	19	0	69
4:45 PM	0		1	2	0	1	1	32	0	2	25	2	66
5:00 PM	0		1	1	0	1	4	34	1	0	27	2	71
5:15 PM	1		1	0	0	1	0	36	0	0	21	0	60
5:30 PM	0		0	2	0	1	3	26	0	1	23	1	57
5:45 PM	0		1	1	0	0	1	21	0	0	18	1	43
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	3	0	8	6	0	13	11	251	6	8	194	6	506

PM Peak Hr Begins at: 400 PM

PEAK	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	2	0	5	2	0	10	3	134	5	7	105	2	275
PEAK HR.													
FACTOR:		0.583			0.600			0.845			0.814		0.955

CONTROL: , , , , , 2 way stop

AS

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Chase Ln

DATE: 1/25/2006

LOCATION: City of El Cajon

E-W STREET: Fuerte Dr

DAY: WEDNESDAY

PROJECT# 06-4033-004

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													90
7:00 AM	1	0	1	2	1	8	7	28	2	0	34	6	95
7:15 AM	1	1	0	1	0	9	3	36	1	0	42	1	127
7:30 AM	2	1	0	2	0	16	6	41	1	0	55	3	158
7:45 AM	0	1	1	3	0	18	12	55	0	0	66	2	109
8:00 AM	1	0	0	0	0	11	14	40	1	0	39	3	134
8:15 AM	2	0	1	2	1	15	11	32	1	0	67	2	106
8:30 AM	2	0	1	2	0	7	10	33	2	0	44	5	106
8:45 AM	2	1	0	2	0	6	6	44	1	1	50	3	116
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	11	4	4	14	2	90	69	309	9	1	397	25	935

AM Peak Hr Begins at: 730 AM

PEAK													
VOLUMES =	5	2	2	7	1	60	43	168	3	0	227	10	528
PEAK HR. FACTOR:		0.750			0.810			0.799			0.859		0.835

CONTROL: 2WayStop(NS)

A9

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Chase Ln

DATE: 1/25/2006

LOCATION: City of El Cajon

E-W STREET: Fuerte Dr

DAY: WEDNESDAY

PROJECT# 06-4033-004

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	1	0	0	8	0	3	6	25	1	1	20	0	65
4:15 PM	1	1	0	4	1	4	5	38	1	0	31	1	87
4:30 PM	1	2	1	6	1	2	6	48	0	2	23	1	93
4:45 PM	0	1	0	5	0	1	2	31	0	1	20	1	62
5:00 PM	2	1	1	16	0	2	7	47	0	2	33	2	113
5:15 PM	1	0	1	7	1	1	3	36	0	2	26	2	80
5:30 PM	1	0	0	11	1	0	4	30	0	1	22	0	70
5:45 PM	1	1	0	6	2	0	4	25	0	1	21	1	62
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL VOLUMES =	NL 8	NT 6	NR 3	SL 63	ST 6	SR 13	EL 37	ET 280	ER 2	WL 10	WT 196	WR 8	TOTAL 632
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PM Peak Hr Begins at: 415 PM

PEAK VOLUMES =	4	5	2	31	2	9	20	164	1	5	107	5	355
PEAK HR. FACTOR:	0.688			0.583			0.856			0.791			0.785

CONTROL: 2WayStop(NS)

A10

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Chase Ave

DATE: 1/26/2006

LOCATION: City of El Cajon

E-W STREET: Fuerte Dr

DAY: THURSDAY

PROJECT# 06-4033-005

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	1	0					1	0	0	1		
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM								98	0	58	145		355
7:00 AM	0	0	54					78	0	64	199		372
7:15 AM	0	0	31					69	2	71	165		335
7:30 AM	2	0	26					77	1	68	175		381
7:45 AM	0	0	60					90	1	36	159		327
8:00 AM	1	0	40					82	0	32	136		281
8:15 AM	1	0	30					66	0	40	130		277
8:30 AM	1	0	40					78	1	36	131		287
8:45 AM	1	1	39										
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	6	1	320	0	0	0	0	638	5	405	1240	0	2615

AM Peak Hr Begins at: 700 AM

PEAK													
VOLUMES =	2	0	171	0	0	0	0	322	3	261	684	0	1443
PEAK HR.													
FACTOR:		0.721			0.000			0.829			0.898		0.947

CONTROL: 1WayStop(0

A11

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Chase Ave

DATE: 1/26/2006

LOCATION: City of El Cajon

E-W STREET: Fuerte Dr

DAY: THURSDAY

PROJECT# 06-4033-005

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL	ST	SR	EL	ET 1	ER 0	WL 0	WT 1	WR	TOTAL
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	3	0	39					206	0	33	110		391
4:15 PM	3	0	46					199	0	19	107		374
4:30 PM	1	0	41					200	0	27	87		356
4:45 PM	0	0	35					208	1	28	88		360
5:00 PM	2	0	48					184	1	43	124		402
5:15 PM	1	0	41					226	1	26	124		419
5:30 PM	1	3	43					220	1	30	113		411
5:45 PM	1	0	40					203	1	28	121		394
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	12	3	333	0	0	0	0	1646	5	234	874	0	3107

PM Peak Hr Begins at: 500 PM

PEAK	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	5	3	172	0	0	0	0	833	4	127	482	0	1626
PEAK HR. FACTOR:	0.900			0.000			0.922			0.912			0.970

CONTROL: 1WayStop(0)

A12

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Chase Ln.

DATE: 1/25/2006

LOCATION: City of El Cajon

E-W STREET: Chase Ave

DAY: WEDNESDAY

PROJECT# 06-4033-007

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	5		2			0		69	4	2	124	0	206
7:15 AM	3		1			1		90	6	2	177	0	280
7:30 AM	10		2			0		93	13	2	169	0	289
7:45 AM	17		2			0		78	19	3	152	1	272
8:00 AM	19		1			0		87	10	4	181	0	302
8:15 AM	13		2			0		93	15	5	158	0	286
8:30 AM	16		0			0		59	7	2	142	0	226
8:45 AM	10		1			0		64	9	2	134	0	220
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	NL 93	NT 0	NR 11	SL 0	ST 0	SR 1	EL 0	ET 633	ER 83	WL 22	WT 1237	WR 1	TOTAL 2081

AM Peak Hr Begins at: 730 AM

PEAK VOLUMES =	59	0	7	0	0	0	0	351	57	14	660	1	1149
PEAK HR. FACTOR:		0.825			0.000			0.944			0.912		0.951

CONTROL: 2WayStop(NS)

A13

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Chase Ln.

DATE: 1/25/2006

LOCATION: City of El Cajon

E-W STREET: Chase Ave

DAY: WEDNESDAY

PROJECT# 06-4033-007

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	7		1		1			210	11	2	113	1	346
4:15 PM	4		1		0			207	9	1	126	0	348
4:30 PM	7		1		0			227	9	0	100	0	344
4:45 PM	5		0		0			231	7	1	122	0	366
5:00 PM	9		2		0			208	15	0	116	0	350
5:15 PM	4		0		0			201	9	0	108	0	322
5:30 PM	5		0		0			189	12	0	96	0	302
5:45 PM	4		1		0			170	6	1	99	0	281
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL VOLUMES =	NL 45	NT 0	NR 6	SL 0	ST 1	SR 0	EL 0	ET 1643	ER 78	WL 5	WT 880	WR 1	TOTAL 2659
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PM Peak Hr Begins at: 415 PM

PEAK VOLUMES =	25	0	4	0	0	0	0	873	40	2	464	0	1408
PEAK HR. FACTOR:	0.659			0.000			0.959			0.917			0.962

CONTROL: 2WayStop(NS)

A14

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Damon Ln

DATE: 1/25/2006

LOCATION: City of El Cajon

E-W STREET: Fuerte Farms Rd

DAY: WEDNESDAY

PROJECT# 06-4033-006

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	1			1	0	0	1	0				
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM									0				5
7:00 AM	2	1			0	1	1		0				7
7:15 AM	1	1			2	0	3		0				13
7:30 AM	3	0			2	6	2		0				34
7:45 AM	2	1			0	27	3		1				13
8:00 AM	2	1			2	6	2		0				8
8:15 AM	2	2			0	1	2		1				3
8:30 AM	1	1			0	0	1		0				2
8:45 AM	1	0			0	0	1		0				
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	NL 14	NT 7	NR 0	SL 0	ST 6	SR 41	EL 15	ET 0	ER 2	WL 0	WT 0	WR 0	TOTAL 85

AM Peak Hr Begins at: 730 AM

PEAK VOLUMES =	9	4	0	0	4	40	9	0	2	0	0	0	68
PEAK HR. FACTOR:		0.813			0.407			0.688			0.000		0.500

CONTROL: 1-way stop EB

A15

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Damon Ln

DATE: 1/25/2006

LOCATION: City of El Cajon

E-W STREET: Fuerte Farms Rd

DAY: WEDNESDAY

PROJECT# 06-4033-006

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 0	NT 1	NR	SL	ST 1	SR 0	EL 0	ET 1	ER 0	WL	WT	WR	TOTAL
1:00 PM	0	0			2	0	1		0				3
1:15 PM	0	1			0	1	1		1				4
1:30 PM	1	1			1	2	1		0				6
1:45 PM	1	0			1	10	3		1				16
2:00 PM	1	1			1	31	2		1				37
2:15 PM	0	3			1	0	3		1				8
2:30 PM	0	2			1	0	1		2				6
2:45 PM	0	0			0	0	1		0				1
3:00 PM	1	1			0	3	2		0				7
3:15 PM	0	0			0	0	2		0				2
3:30 PM	0	1			1	0	2		0				4
3:45 PM	0	1			0	1	1		0				3

TOTAL VOLUMES =	NL 4	NT 11	NR 0	SL 0	ST 8	SR 48	EL 20	ET 0	ER 6	WL 0	WT 0	WR 0	TOTAL 97
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MID Peak Hr Begins at: 145 PM

PEAK VOLUMES =	2	6	0	0	4	41	9	0	5	0	0	0	67
PEAK HR. FACTOR:		0.667			0.352			0.875			0.000		0.453

CONTROL:

A16

Intersection Turning Movement

Prepared by: Southland Car Counters

N-S STREET: Damon Ln

DATE: 1/25/2006

LOCATION: City of El Cajon

E-W STREET: Fuerte Farms Rd

DAY: WEDNESDAY

PROJECT# 06-4033-006

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	0	1			1	0	0	1	0				
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM					1	1	1		0				4
4:00 PM	0	1			0	0	2		0				4
4:15 PM	1	1			4	2	2		0				9
4:30 PM	0	1			1	1	1		0				5
4:45 PM	1	1			0	0	1		0				3
5:00 PM	0	2			0	0	1		0				2
5:15 PM	0	1			0	0	1		0				3
5:30 PM	0	2			0	1	0		0				3
5:45 PM	0	0			0	0	1		0				1
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	2	9	0	0	6	5	9	0	0	0	0	0	31

PM Peak Hr Begins at: 400 PM

PEAK	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
VOLUMES =	2	4	0	0	6	4	6	0	0	0	0	0	22
PEAK HR.				SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
FACTOR:	0.750				0.417			0.750			0.000		0.611

CONTROL: 1-way stop EB

A17

24-Hour Machine Counts

A18

Average Daily Traffic Volumes

Prepared by: Southland Car Counters

Project #: 06-4032-008

Volumes for: Thursday, January 26, 2006

City: San Diego

Location: Avocado Bl from Horizon Hills Dr to Fuerte Dr

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00	5	8			12:00	0	153		
00:15	13	11			12:15	0	184		
00:30	9	20			12:30	0	139		
00:45	7	34	8	47	81	12:45	0	0	153 629
01:00	10	13			13:00	0	139		
01:15	4	6			13:15	0	156		
01:30	3	6			13:30	0	130		
01:45	3	20	6	31	51	13:45	0	0	174 599
02:00	5	11			14:00	176	162		
02:15	6	9			14:15	135	145		
02:30	4	4			14:30	125	177		
02:45	4	19	5	29	48	14:45	140	576	211 695
03:00	5	1			15:00	150	193		
03:15	5	0			15:15	144	191		
03:30	3	3			15:30	175	225		
03:45	2	15	7	11	26	15:45	153	622	260 869
04:00	0	3			16:00	197	243		
04:15	0	9			16:15	167	220		
04:30	0	17			16:30	193	206		
04:45	0	0	8	37	37	16:45	194	751	207 876
05:00	0	12			17:00	216	216		
05:15	0	25			17:15	198	215		
05:30	0	57			17:30	167	208		
05:45	0	0	47	141	141	17:45	162	743	206 845
06:00	0	62			18:00	144	164		
06:15	0	63			18:15	127	135		
06:30	0	95			18:30	112	118		
06:45	0	0	135	355	355	18:45	95	478	109 526
07:00	0	136			19:00	91	97		
07:15	0	141			19:15	92	94		
07:30	0	166			19:30	79	86		
07:45	0	0	255	698	698	19:45	68	330	81 358
08:00	0	197			20:00	78	85		
08:15	0	152			20:15	55	78		
08:30	0	167			20:30	53	67		
08:45	0	0	162	678	678	20:45	58	244	81 311
09:00	0	149			21:00	67	70		
09:15	0	143			21:15	48	69		
09:30	0	144			21:30	54	52		
09:45	0	0	142	578	578	21:45	39	208	51 242
10:00	0	139			22:00	47	49		
10:15	0	154			22:15	28	45		
10:30	0	157			22:30	35	26		
10:45	0	0	147	597	597	22:45	25	135	28 148
11:00	0	152			23:00	15	29		
11:15	0	165			23:15	17	25		
11:30	0	165			23:30	14	11		
11:45	0	0	177	659	659	23:45	12	58	18 83
Total Vol.	88	3861			3949		4145	6181	10326

				Daily Totals				Combined
				NB	SB	EB	WB	
				4233	10042			14275
AM				PM				72.3%
Split %	2.2%	97.8%	27.7%	40.1%	59.9%			
Peak Hour	00:15	07:45	07:45	16:30	15:30			16:30
Volume	39	771	771	801	948			1645
P.H.F.	0.75	0.76	0.76	0.95	0.91			0.95

A19

Average Daily Traffic Volumes

Prepared by: Southland Car Counters

Volumes for: Thursday, January 26, 2006

City: San Diego

Project #: 06-4032-009

- Location: Avocado Bl from Fuerte Dr to Explorer Rd

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			15	10	12:00			144	185
00:15			19	11	12:15			146	204
00:30			14	23	12:30			153	164
00:45			11	59	12:45			179	622
				9				178	731
01:00			9	12					1353
01:15			9	7	13:00			163	170
01:30			9	8	13:15			195	180
01:45			4	31	13:30			159	173
				9	13:45			178	695
02:00			12	13				217	200
02:15			11	10	14:00			196	215
02:30			7	7	14:15			177	200
02:45			1	31	14:30			189	779
				3	14:45			231	846
03:00			11	2				194	195
03:15			4	2	15:00			248	194
03:30			2	5	15:15			235	224
03:45			10	27	15:30			228	905
				6	15:45			257	215
04:00			6	5				232	201
04:15			10	7	16:00			253	208
04:30			11	21	16:15			256	998
04:45			13	40	16:30			220	844
				14	16:45			263	205
05:00			18	11				269	211
05:15			27	36	17:00			238	201
05:30			34	72	17:15			240	1010
05:45			59	138	17:30			186	803
				66	17:45			224	191
06:00			59	88				223	153
06:15			76	92	18:00			169	151
06:30			80	146	18:15			154	770
06:45			102	317	18:30			137	632
				516	18:45			149	119
07:00			175	183				132	123
07:15			229	203	19:00			114	95
07:30			228	199	19:15			113	508
07:45			285	917	19:30			102	439
				265	19:45			104	104
08:00			253	203				97	95
08:15			253	171	20:00			90	87
08:30			245	186	20:15			92	383
08:45			242	993	20:30			113	399
				180	20:45			91	94
09:00			155	166				94	82
09:15			113	162	21:00			73	65
09:30			135	152	21:15			64	322
09:45			127	530	21:30			61	302
				158	21:45			302	624
10:00			112	167				64	67
10:15			124	169	22:00			52	51
10:30			122	181	22:15			45	35
10:45			119	477	22:30			35	196
				192	22:45			22	38
11:00			127	182				25	24
11:15			150	183	23:00			19	11
11:30			141	195	23:15			23	89
11:45			164	582	23:30			18	91
				197	23:45				180
				757					
Total Vol.			4142	4579	8721			7277	6862
									14139

Split %	AM			Daily Totals		
	NB	SB	EB	WB	Combined	
			11419	11441	22860	
			51.5%	48.5%	61.9%	
Peak Hour			07:45	07:15	07:15	
Volume			1036	870	1865	
P.H.F.			0.91	0.82	0.85	
			16:30	15:30	16:30	
			1041	888	1885	
			0.97	0.90	0.98	

A20

Average Daily Traffic Volumes

Prepared by: Southland Car Counters

Volumes for: Wednesday, January 25, 2006

City: San Diego

Project #: 06-4032-001

Location: Fuerte Dr from Calavo Dr to Avocado Bl

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			8	6	12:00			69	77
00:15			4	2	12:15			46	71
00:30			5	8	12:30			35	71
00:45			2	19	12:45			42	192
01:00			0	1	13:00			46	75
01:15			1	0	13:15			43	68
01:30			2	3	13:30			52	60
01:45			3	6	13:45			44	185
02:00			2	2	14:00			55	81
02:15			2	1	14:15			47	67
02:30			2	1	14:30			46	73
02:45			1	7	14:45			51	199
03:00			1	0	15:00			51	85
03:15			1	2	15:15			49	74
03:30			0	3	15:30			56	75
03:45			1	3	15:45			53	209
04:00			3	3	16:00			46	84
04:15			0	6	16:15			44	91
04:30			4	5	16:30			52	55
04:45			5	12	16:45			47	189
05:00			4	5	17:00			44	60
05:15			4	15	17:15			56	75
05:30			3	24	17:30			46	85
05:45			12	23	17:45			45	191
06:00			10	35	18:00			52	60
06:15			19	55	18:15			51	53
06:30			33	71	18:30			58	34
06:45			33	95	18:45			59	220
07:00			45	75	19:00			65	36
07:15			45	86	19:15			50	29
07:30			82	75	19:30			61	19
07:45			76	248	19:45			47	223
08:00			66	86	20:00			69	30
08:15			65	50	20:15			49	33
08:30			66	41	20:30			56	26
08:45			47	244	20:45			51	225
09:00			54	61	21:00			51	27
09:15			41	66	21:15			53	25
09:30			68	83	21:30			45	11
09:45			58	221	21:45			30	179
10:00			53	64	22:00			26	10
10:15			48	65	22:15			15	5
10:30			52	63	22:30			17	9
10:45			59	212	22:45			16	74
11:00			56	71	23:00			11	3
11:15			58	74	23:15			17	3
11:30			68	62	23:30			14	7
11:45			58	240	23:45			5	47
Total Vol.			1330	1729	3059				

Total Vol.

AM

43.5% 56.5% 41.2%

Split %

Peak Hour 07:30 07:15 07:15
Volume 289 337 606
P.H.F. 0.88 0.94 0.91

Daily Totals

NB	SB	EB	WB	Combined
		3463	3970	7433

PM

48.8% 51.2% 58.8%

18:45 15:30 15:30
235 316 515
0.90 0.87 0.95

A21

Average Daily Traffic Volumes

Prepared by: Southland Car Counters

Volumes for: Wednesday, January 25, 2006

City: San Diego

Project #: 06-4032-002

Location: Fuerte Dr from Avocado Bl to Damon Ln

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			3	2	12:00			30	34
00:15			0	2	12:15			32	27
00:30			1	1	12:30			39	51
00:45			1	5	12:45			45	146
01:00			1	0	13:00			30	33
01:15			0	0	13:15			49	49
01:30			0	1	13:30			51	36
01:45			0	1	13:45			44	174
02:00			0	0	14:00			45	75
02:15			0	1	14:15			26	31
02:30			0	2	14:30			24	31
02:45			0	0	14:45			19	114
03:00			0	0	15:00			34	24
03:15			0	0	15:15			26	25
03:30			0	0	15:30			21	27
03:45			0	0	15:45			30	111
04:00			0	0	16:00			45	21
04:15			2	1	16:15			43	19
04:30			1	0	16:30			46	17
04:45			3	6	16:45			43	177
05:00			0	2	17:00			35	19
05:15			7	2	17:15			26	25
05:30			9	1	17:30			46	16
05:45			10	26	17:45			41	148
06:00			16	1	18:00			26	21
06:15			20	2	18:15			22	23
06:30			27	6	18:30			12	24
06:45			37	100	18:45			8	68
07:00			25	22	19:00			12	18
07:15			29	13	19:15			9	6
07:30			50	32	19:30			7	19
07:45			58	162	19:45			6	34
08:00			20	17	20:00			7	14
08:15			19	12	20:15			5	15
08:30			13	13	20:30			7	6
08:45			13	65	20:45			11	30
09:00			21	18	21:00			13	8
09:15			16	15	21:15			7	15
09:30			30	19	21:30			1	9
09:45			32	99	21:45			1	22
10:00			23	16	22:00			2	4
10:15			13	9	22:15			2	2
10:30			15	23	22:30			1	4
10:45			23	74	22:45			1	6
11:00			27	28	23:00			1	1
11:15			22	24	23:15			1	1
11:30			31	39	23:30			2	1
11:45			34	114	23:45			0	4

Total Vol.	652	529	1181	1034	967	2001
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Split %	AM			Daily Totals		
	NB	SB	Combined	EB	WB	Combined
	55.2%	44.8%	37.1%	1686	1496	3182
				51.7%	48.3%	62.9%
Peak Hour	07:00	07:00	07:00	13:15	13:15	13:15
Volume	162	156	318	189	200	389
P.H.F.	0.70	0.44	0.54	0.93	0.67	0.81

A22

Average Daily Traffic Volumes

Prepared by: Southland Car Counters

Project #: 06-4032-003

Volumes for: Wednesday, January 25, 2006

City: San Diego

Location: Fuerte Dr from Damon Ln to Chase Ln

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			2	1	12:00			33	29
00:15			3	3	12:15			21	28
00:30			1	1	12:30			16	19
00:45			2	8	12:45			14	84
01:00			1	2	13:00			20	21
01:15			0	1	13:15			10	33
01:30			1	0	13:30			14	40
01:45			3	5	13:45			41	85
02:00			1	0	14:00			47	54
02:15			0	1	14:15			21	33
02:30			2	2	14:30			26	23
02:45			0	3	14:45			39	133
03:00			1	0	15:00			27	21
03:15			0	1	15:15			40	39
03:30			1	0	15:30			22	19
03:45			0	2	15:45			46	135
04:00			2	0	16:00			39	28
04:15			0	2	16:15			25	36
04:30			0	4	16:30			42	25
04:45			1	3	16:45			37	143
05:00			0	7	17:00			36	25
05:15			3	15	17:15			37	23
05:30			7	27	17:30			28	27
05:45			4	14	17:45			23	124
06:00			13	22	18:00			28	12
06:15			21	39	18:15			19	15
06:30			17	47	18:30			13	11
06:45			28	79	18:45			15	75
07:00			34	42	19:00			17	10
07:15			13	64	19:15			9	7
07:30			43	95	19:30			11	7
07:45			85	175	19:45			7	44
08:00			38	38	20:00			13	8
08:15			19	28	20:15			10	6
08:30			22	24	20:30			4	8
08:45			15	94	20:45			7	34
09:00			20	30	21:00			2	6
09:15			11	22	21:15			1	5
09:30			17	19	21:30			3	4
09:45			15	63	21:45			2	8
10:00			15	14	22:00			4	5
10:15			19	23	22:15			0	2
10:30			13	18	22:30			1	0
10:45			10	57	22:45			2	7
11:00			16	21	23:00			0	3
11:15			22	29	23:15			1	2
11:30			29	36	23:30			2	0
11:45			37	104	23:45			1	4
Total Vol.			607	994	1601			876	813

Total Vol.

AM

37.9% 62.1% 48.7%

Split %

Peak Hour

Volume

P.H.F.

07:30 07:00 07:00

185 326 501

0.54 0.65 0.60

Daily Totals

1483 1807 3290

51.9% 48.1% 51.3%

15:45 13:15 13:30

152 177 300

0.83 0.82 0.74

A23

Average Daily Traffic Volumes

Prepared by: Southland Car Counters

Volumes for: Wednesday, January 25, 2006

City: San Diego

Project #: 06-4032-004

Location: Fuerte Dr from Chase Ln to Chase Ave

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			3	1	12:00			24	27
00:15			1	2	12:15			31	25
00:30			2	0	12:30			18	20
00:45			1	7	12:45			18	91
01:00			2	0	13:00			26	26
01:15			0	1	13:15			21	20
01:30			1	1	13:30			19	15
01:45			0	3	13:45			34	100
02:00			2	0	14:00			28	21
02:15			0	0	14:15			24	20
02:30			1	1	14:30			32	24
02:45			0	3	14:45			19	103
03:00			0	0	15:00			41	29
03:15			0	0	15:15			40	29
03:30			0	0	15:30			29	32
03:45			0	0	15:45			32	142
04:00			0	1	16:00			48	29
04:15			1	1	16:15			36	27
04:30			0	0	16:30			35	22
04:45			0	1	16:45			48	167
05:00			1	4	17:00			50	24
05:15			4	4	17:15			35	29
05:30			9	2	17:30			46	21
05:45			8	22	17:45			40	171
06:00			11	5	18:00			29	24
06:15			13	6	18:15			17	21
06:30			28	11	18:30			14	29
06:45			30	82	18:45			15	75
07:00			44	70	19:00			14	26
07:15			44	30	19:15			13	13
07:30			71	43	19:30			22	12
07:45			66	225	19:45			14	63
08:00			28	52	20:00			14	10
08:15			26	39	20:15			12	10
08:30			28	37	20:30			16	16
08:45			22	104	20:45			18	60
09:00			29	20	21:00			17	7
09:15			18	20	21:15			11	8
09:30			16	19	21:30			3	8
09:45			23	86	21:45			2	33
10:00			16	27	22:00			5	8
10:15			13	12	22:15			4	3
10:30			26	16	22:30			2	1
10:45			19	74	22:45			5	16
11:00			18	21	23:00			1	4
11:15			23	19	23:15			2	3
11:30			14	17	23:30			5	2
11:45			28	83	23:45			0	8

Total Vol. 690 727 1417 1029 833 1862

Split %	AM			Daily Totals		
	NB	SB	EB	WB	Combined	
			1719	1560	3279	
			55.3%	44.7%	56.8%	
Peak Hour	07:00	07:00	07:00	16:45	14:45	16:45
Volume	225	261	486	179	115	280
P.H.F.	0.79	0.55	0.66	0.90	0.90	0.93

A24

Average Daily Traffic Volumes

Prepared by: Southland Car Counters

Volumes for: Thursday, January 26, 2006

City: San Diego

Project #: 06-4032-005

Location: Fuerte Farms Rd from Fuerte Dr to Damon Ln

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			0	1	12:00			1	1
00:15			0	0	12:15			0	0
00:30			0	0	12:30			1	1
00:45			0	0	12:45			0	2
01:00			0	0	13:00			2	1
01:15			0	0	13:15			2	2
01:30			0	0	13:30			3	8
01:45			0	0	13:45			3	10
02:00			0	0	14:00			5	5
02:15			0	0	14:15			3	2
02:30			0	0	14:30			1	3
02:45			0	0	14:45			3	12
03:00			0	0	15:00			2	3
03:15			0	0	15:15			2	0
03:30			0	0	15:30			1	1
03:45			0	0	15:45			2	7
04:00			0	0	16:00			3	2
04:15			2	2	16:15			2	1
04:30			1	0	16:30			1	0
04:45			1	4	16:45			1	7
05:00			0	0	17:00			0	1
05:15			0	1	17:15			1	0
05:30			1	0	17:30			0	1
05:45			2	3	17:45			1	2
06:00			1	0	18:00			2	4
06:15			0	0	18:15			0	1
06:30			2	0	18:30			1	3
06:45			4	7	18:45			2	5
07:00			2	3	19:00			2	1
07:15			2	3	19:15			0	0
07:30			1	6	19:30			0	0
07:45			5	10	19:45			0	2
08:00			1	13	20:00			0	1
08:15			5	5	20:15			1	0
08:30			1	1	20:30			2	0
08:45			0	7	20:45			0	3
09:00			2	0	21:00			0	1
09:15			3	2	21:15			0	1
09:30			2	1	21:30			0	0
09:45			6	13	21:45			0	0
10:00			0	1	22:00			0	0
10:15			1	2	22:15			0	0
10:30			0	3	22:30			0	0
10:45			1	2	22:45			0	0
11:00			2	1	23:00			0	0
11:15			4	2	23:15			0	0
11:30			0	0	23:30			1	0
11:45			2	8	23:45			1	2

Total Vol. 54 81 135

NB	SB	Daily Totals		
		EB	WB	Combined
		106	159	265
		PM		
		40.0%	60.0%	49.1%

Split %	AM		
	40.0%	60.0%	50.9%
Peak Hour	09:00	07:30	07:30
Volume	13	51	63
P.H.F.	0.54	0.47	0.49

13:30	13:15	13:30
14	42	56
0.70	0.39	0.47

A25

Prepared by: Southland Car Counters

City: San Diego

Location: Damon Ln from Fuerte Dr to Fuerte Farms Rd

A26

Average Daily Traffic Volumes

Prepared by: Southland Car Counters

Project #: 06-4032-006

Volumes for: Thursday, January 26, 2006

City: San Diego

Location: Chase Ave from Bernita Rd to Chase Ln									
AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			15	13	12:00			98	111
00:15			12	7	12:15			109	115
00:30			9	6	12:30			120	102
00:45			17	53	12:45			108	435
01:00			9	5	13:00			125	102
01:15			12	6	13:15			124	100
01:30			5	2	13:30			122	106
01:45			4	30	13:45			137	508
02:00			3	3	14:00			140	155
02:15			9	1	14:15			141	143
02:30			6	2	14:30			160	126
02:45			5	23	14:45			160	601
03:00			2	2	15:00			198	146
03:15			4	2	15:15			168	137
03:30			3	4	15:30			180	114
03:45			2	11	15:45			196	742
04:00			3	6	16:00			211	126
04:15			4	5	16:15			207	112
04:30			6	16	16:30			212	109
04:45			9	22	16:45			187	817
05:00			4	29	17:00			190	140
05:15			9	38	17:15			241	126
05:30			16	57	17:30			225	101
05:45			18	47	17:45			184	840
06:00			17	77	18:00			182	111
06:15			28	88	18:15			198	89
06:30			27	128	18:30			167	101
06:45			79	151	18:45			172	719
07:00			111	157	19:00			140	71
07:15			67	175	19:15			132	68
07:30			75	166	19:30			118	67
07:45			83	336	19:45			99	489
08:00			95	162	20:00			84	49
08:15			90	179	20:15			78	62
08:30			104	144	20:30			95	57
08:45			78	367	20:45			106	363
09:00			70	118	21:00			78	62
09:15			83	129	21:15			72	36
09:30			79	118	21:30			76	26
09:45			94	326	21:45			49	275
10:00			65	118	22:00			54	32
10:15			85	85	22:15			39	15
10:30			70	125	22:30			35	15
10:45			96	316	22:45			32	160
11:00			86	115	23:00			31	25
11:15			86	119	23:15			34	7
11:30			116	118	23:30			21	10
11:45			99	387	23:45			19	105
Total Vol.			2069	3393	5462				

Split %	AM		PM		Combined
	37.9%	62.1%	60.4%	39.6%	
Peak Hour	11:45	07:30	16:45	14:00	17:00
Volume	426	693	843	545	1321
P.H.F.	0.89	0.93	0.87	0.88	0.90

A27

Average Daily Traffic Volumes

Prepared by: Southland Car Counters

Volumes for: Thursday, January 26, 2006

City: San Diego

Project #: 06-4032-007

Location: Chase Ave from Fuerte Dr to SR-54/Jamacha Rd

AM Period	NB	SB	EB	WB	PM Period	NB	SB	EB	WB
00:00			8	14	12:00			75	69
00:15			3	16	12:15			74	85
00:30			4	14	12:30			93	68
00:45			4	19	12:45			64	306
01:00			4	7	13:00			88	310
01:15			2	13	13:15			61	84
01:30			0	11	13:30			77	71
01:45			2	8	13:45			85	89
02:00			2	5	14:00			103	326
02:15			0	7	14:15			88	332
02:30			2	4	14:30			143	93
02:45			2	6	14:45			187	104
03:00			2	3	15:00			186	92
03:15			4	1	15:15			176	692
03:30			2	1	15:30			112	401
03:45			3	11	15:45			271	1047
04:00			2	3	16:00			123	417
04:15			4	2	16:15			244	126
04:30			9	5	16:30			216	134
04:45			10	25	16:45			182	143
05:00			13	14	17:00			184	826
05:15			20	21	17:15			141	544
05:30			34	27	17:30			314	111
05:45			38	105	17:45			278	142
06:00			48	68	18:00			230	145
06:15			56	108	18:15			229	1051
06:30			76	148	18:30			117	515
06:45			82	262	18:45			112	515
07:00			132	280	19:00			72	534
07:15			156	182	19:15			105	417
07:30			138	158	19:30			87	951
07:45			134	560	19:45			60	87
08:00			120	185	20:00			52	75
08:15			106	192	20:15			39	85
08:30			108	185	20:30			31	182
08:45			104	438	20:45			81	328
09:00			102	87	21:00			32	148
09:15			67	92	21:15			85	284
09:30			75	78	21:30			36	67
09:45			60	304	21:45			36	54
10:00			54	87	22:00			32	148
10:15			64	61	22:15			10	44
10:30			60	69	22:30			51	158
10:45			70	248	22:45			35	202
11:00			64	63	23:00			11	28
11:15			71	66	23:15			6	21
11:30			72	70	23:30			7	23
11:45			62	269	23:45			6	30

Total Vol. 2255 3234 5489 5288 4027 9315

Split %	AM			Daily Totals		
	NB	SB	Combined	EB	WB	Combined
				7543	7261	14804
				56.8%	43.2%	62.9%
Peak Hour	07:00	07:00	07:00	17:00	16:00	17:00
Volume	560	842	1402	1051	544	1566
P.H.F.	0.90	0.75	0.85	0.84	0.95	0.92

A28

2004aadt

Caltrans

District	Route	Rte Suf	County	PM Prefix	Postmile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
11	94		SD	R	13.14	END FREEWAY	4900	59000	57000	4150	50000	48500
11	94		SD	R	13.33	AVOCADO BOULEVARD						
11	94		SD	R	13.54	MILEPOST EQUATION =13.59	4150	50000	48500	5500	66000	64000
11	94		SD		14.33	JAMACHA ROAD	5500	66000	64000	1900	22900	22300
11	94		SD		14.86	JCT. RTE. 54 NORTH						

A29

SANDAG Trip Generation Rates

A30



(NOT SO)

BRIEF GUIDE OF VEHICULAR TRAFFIC GENERATION RATES FOR THE SAN DIEGO REGION

APRIL 2002



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San Diego, California 92101
(619) 699-1900 • Fax (619) 699-1950

NOTE: This listing only represents a *guide* of average, or estimated, traffic generation "driveway" rates and some very general trip data for land uses (emphasis on acreage and building square footage) in the San Diego region. These rates (both local and national) are subject to change as future documentation becomes available, or as regional sources are updated. For more specific information regarding traffic data and trip rates, please refer to the San Diego Traffic Generators manual. *Always check with local jurisdictions for their preferred or applicable rates.*

LAND USE	TRIP CATEGORIES (PRIMARY:DIVERTED:PASS-BY)*	ESTIMATED WEEKDAY VEHICLE TRIP GENERATION RATE (DRIVEWAY)	HIGHEST PEAK HOUR % (plus IN:OUT ratio) Between 6:00-9:30 A.M. Between 3:00-6:30 P.M.	TRIP LENGTH (Miles) ¹
AGRICULTURE (Open Space)	[80:18:2]	2/acre**		10.8
AIRPORT	[78:20:2]			12.5
Commercial		60/acre, 100/flight, 70/1000 sq. ft.***	5% (6:4)	
General Aviation		6/acre, 2/flight, 6/based aircraft***	9% (7:3)	
Heliports		100/acre**	15% (5:5)	
AUTOMOBILE ²				
Car Wash				
Automatic		900/site, 600/acre**	4% (5:5)	
Self-serve		100/wash stall**	4% (5:5)	
Gasoline	[21:51:28]			2.8
with/Food Mart		160/vehicle fueling space**	7% (5:5)	
with/Food Mart & Car Wash		155/vehicle fueling space**	8% (5:5)	
Older Service Station Design		150/vehicle fueling space, 900/station**	7% (5:5)	
Sales (Dealer & Repair)		50/1000 sq. ft., 300/acre, 60/service stall***	5% (7:3)	
Auto Repair Center		20/1000 sq. ft., 400/acre, 20/service stall***	8% (7:3)	
Auto Parts Sales		60/1000 sq. ft.**	4% (5:5)	
Quick Lube		40/service stall**	7% (6:4)	
Tire Store		25/1000 sq. ft., 30/service stall**	7% (6:4)	
CEMETERY		5/acre*		
CHURCH (or Synagogue)	[64:25:11]	9/1000 sq. ft., 30/acre** (quadruple rates for Sunday, or days of assembly)	5% (6:4)	5.1
COMMERCIAL/RETAIL ³				
Super Regional Shopping Center (More than 80 acres, more than 800,000 sq. ft., w/usually 3+ major stores)		35/1000 sq. ft., 400/acre*	4% (7:3)	
Regional Shopping Center	[54:35:11]	50/1000 sq. ft., 500/acre*	4% (7:3)	5.2
(40-80 acres, 400,000-800,000 sq. ft., w/usually 2+ major stores)				
Community Shopping Center	[47:31:22]	80/1000 sq. ft., 700/acre**	4% (6:4)	3.6
(15-40 acres, 125,000-400,000 sq. ft., w/usually 1 major store, detached restaurant(s), grocery and drugstore)				
Neighborhood Shopping Center (Less than 15 acres, less than 125,000 sq. ft., w/usually grocery & drugstore, cleaners, beauty & barber shop, & fast food services)		120/1000 sq. ft., 1200/acre**	4% (6:4)	
Commercial Shops	[45:40:15]			4.3
Specialty Retail/Strip Commercial		40/1000 sq. ft., 400/acre*	3% (6:4)	
Electronics Superstore		50/1000 sq. ft.**	10% (5:5)	
Factory Outlet		40/1000 sq. ft.**	4% (7:3)	
Supermarket		150/1000 sq. ft., 2000/acre***	4% (7:3)	
Drugstore		90/1000 sq. ft.**	10% (5:5)	
Convenience Market (15-16 hours)		500/1000 sq. ft.**	4% (6:4)	
Convenience Market (24 hours)		700/1000 sq. ft.**	8% (5:5)	
Convenience Market (w/gasoline pumps)		850/1000 sq. ft., 550/vehicle fueling space**	8% (5:5)	
Discount Club		60/1000 sq. ft., 600/acre***	7% (5:5)	
Discount Store		60/1000 sq. ft., 600/acre**	1% (7:3)	
Furniture Store		6/1000 sq. ft., 100/acre**	3% (6:4)	
Lumber Store		30/1000 sq. ft., 150/acre**	4% (7:3)	
Home Improvement Superstore		40/1000 sq. ft.**	7% (6:4)	
Hardware/Paint Store		60/1000 sq. ft., 600/acre**	5% (6:4)	
Garden Nursery		40/1000 sq. ft., 90/acre**	2% (6:4)	
Mixed Use: Commercial (w/supermarket)/Residential		110/1000 sq. ft., 2000/acre* (commercial only)	3% (6:4)	
		5/dwelling unit, 200/acre* (residential only)	9% (3:7)	
EDUCATION				
University (4 years)	[91:9:0]	2.4/student, 100 acre*	10% (8:2)	8.9
Junior College (2 years)	[92:7:1]	1.2/student, 24/1000 sq. ft., 120/acre***	12% (8:2)	9.0
High School	[75:19:6]	1.3/student, 15/1000 sq. ft., 60/acre***	20% (7:3)	4.8
Middle/Junior High	[63:25:12]	1.4/student, 12/1000 sq. ft., 50/acre***	30% (6:4)	5.0
Elementary	[57:25:10]	1.6/student, 14/1000 sq. ft., 90/acre***	32% (6:4)	3.4
Day Care	[28:58:14]	5/child, 80/1000 sq. ft.**	17% (5:5)	3.7
FINANCIAL ³	[35:42:23]			3.4
Bank (Walk-In only)		150/1000 sq. ft., 1000/acre***	4% (7:3)	
with Drive-Through		200/1000 sq. ft., 1500/acre*	5% (6:4)	
Drive-Through only		250 (125 one-way)/lane*	3% (5:5)	
Savings & Loan		60/1000 sq. ft., 600/acre**	2% (5:5)	
Drive-Through only		100 (50 one-way)/lane**	4% (5:5)	
HOSPITAL	[73:25:2]			8.3
General		20/bed, 25/1000 sq. ft., 250/acre*	8% (7:3)	
Convalescent/Nursing		3/bed**	7% (6:4)	
INDUSTRIAL				
Industrial/Business Park (commercial included)	[79:19:2]	16/1000 sq. ft., 200/acre***	12% (8:2)	9.0
Industrial Park (no commercial)		8/1000 sq. ft., 90/acre**	11% (9:1)	
Industrial Plant (multiple shifts)	[92:5:3]	10/1000 sq. ft., 120/acre*	14% (8:2)	11.7
Manufacturing/Assembly		4/1000 sq. ft., 50/acre**	19% (9:1)	
Warehousing		5/1000 sq. ft., 60/acre**	13% (7:3)	
Storage		2/1000 sq. ft., 0.2/vault, 30/acre*	6% (5:5)	
Science Research & Development		8/1000 sq. ft., 80/acre*	16% (9:1)	
Landfill & Recycling Center		6/acre	11% (5:5)	

(OVER)

MEMBER AGENCIES: Cities of Carlsbad, Chula Vista, Coronado, Del Mar, El Cajon, Encinitas, Escondido, Imperial Beach, La Mesa, Lemon Grove, National City, Oceanside, Poway, San Diego, San Marcos, Santee, Solana Beach, Vista and County of San Diego.
ADVISORY/LIAISON MEMBERS: California Department of Transportation, County Water Authority, U.S. Department of Defense, S.D. Unified Port District and Tijuana/Baja California.

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LAND USE	TRIP CATEGORIES (PRIMARY:DIVERTED:PASS-BY)*	ESTIMATED WEEKDAY VEHICLE TRIP GENERATION RATE (DRIVEWAY)	HIGHEST PEAK HOUR % (plus IN:OUT ratio) Between 6:00-9:30 A.M. Between 3:00-6:30 P.M.		TRIP LENGTH (Miles) ¹
LIBRARY	[44:44:12]	50/1000 sq. ft., 400/acre**	2%	(7:3)	3.9
LODGING	[58:38:4]				
Hotel (w/convention facilities/restaurant)		10/occupied room, 300/acre	8%	(6:4)	7.6
Motel		9/occupied room, 200/acre*	8%	(6:4)	
Resort Hotel		8/occupied room, 100/acre*	9%	(6:4)	
Business Hotel		7/occupied room**	7%	(4:6)	
MILITARY	[82:16:2]	2.5/military & civilian personnel*	9%	(9:1)	11.2
OFFICE					
Standard Commercial Office	[77:19:4]	20/1000 sq. ft., ³ 300/acre*	14%	(9:1)	8.8
(less than 100,000 sq. ft.)					
Large (High-Rise) Commercial Office	[82:15:3]	17/1000 sq. ft., ³ 600/acre*	13%	(9:1)	10.0
(more than 100,000 sq. ft., 6+ stories)					
Office Park (400,000+ sq. ft.)		12/1000 sq. ft., 200/acre**	13%	(9:1)	
Single Tenant Office		14/1000 sq. ft., 180/acre*	15%	(9:1)	8.8
Corporate Headquarters		7/1000 sq. ft., 110/acre*	17%	(9:1)	
Government (Civic Center)	[50:34:16]	30/1000 sq. ft.**	9%	(9:1)	6.0
Post Office					
Central/Walk-In Only		90/1000 sq. ft.**	5%		
Community (not including mail drop lane)		200/1000 sq. ft., 1300/acre*	7%	(6:4)	
Community (w/mail drop lane)		300/1000 sq. ft., 2000/acre*	8%	(5:5)	
Mail Drop Lane only		1500 (750 one-way)/lane*	7%	(5:5)	
Department of Motor Vehicles		180/1000 sq. ft., 900/acre**	8%	(5:5)	
Medical-Dental	[60:30:10]	50/1000 sq. ft., 500/acre*	8%	(6:4)	6.4
PARKS	[66:28:6]				
City (developed w/meeting rooms and sports facilities)		50/acre*	4%		
Regional (developed)		20/acre*	13%	(5:5)	5.4
Neighborhood/County (undeveloped)		5/acre (add for specific sport uses), 6/picnic site**			
State (average 1000 acres)		1/acre, 10/picnic site**			
Amusement (Theme)		80/acre, 130/acre (summer only)**			
San Diego Zoo		115/acre*	8%	(6:4)	
Sea World		80/acre*			
RECREATION					
Beach, Ocean or Bay	[52:39:9]	600/1000 ft. shoreline, 60/acre*			6.3
Beach, Lake (fresh water)		50/1000 ft. shoreline, 5/acre*			
Bowling Center		30/1000 sq. ft., 300/acre, 30/lane**	7%	(7:3)	
Campground		4/campsite**	4%		
Golf Course		7/acre, 40/tee, 700/course**	7%	(8:2)	
Driving Range only		70/acre, 14/tee box*	3%	(7:3)	
Marinas		4/berth, 20/acre**	3%	(3:7)	
Multi-purpose (miniature golf, video arcade, batting cage, etc.)		90/acre	2%		
Racquetball/Health Club		30/1000 sq. ft., 300/acre, 40/court*	4%	(6:4)	
Tennis Courts		16/acre, 30/court**	5%		
Sports Facilities					
Outdoor Stadium		50/acre, 0.2/seat*			
Indoor Arena		30/acre, 0.1/seat*			
Racetrack		40/acre, 0.6 seat*			
Theaters (multiplex w/matinee)	[66:17:17]	80/1000 sq. ft., 1.8/seat, 360/screen*	10%		6.1
RESIDENTIAL	[86:11:3]				
Estate, Urban or Rural		12/dwelling unit**	8%	(3:7)	7.9
(average 1-2 DU/acre)					
Single Family Detached		10/dwelling unit**	8%	(3:7)	
(average 3-6 DU/acre)					
Condominium		8/dwelling unit**	8%	(2:8)	
(or any multi-family 6-20 DU/acre)					
Apartment		6/dwelling unit**	8%	(2:8)	
(or any multi-family units more than 20 DU/acre)					
Military Housing (off-base, multi-family)					
(less than 6 DU/acre)		8/dwelling unit	7%	(3:7)	
(6-20 DU/acre)		6/dwelling unit	7%	(3:7)	
Mobile Home					
Family		5/dwelling unit, 40/acre*	8%	(3:7)	
Adults Only		3/dwelling unit, 20/acre*	9%	(3:7)	
Retirement Community		4/dwelling unit**	5%	(4:6)	
Congregate Care Facility		2.5/dwelling unit**	4%	(6:4)	
RESTAURANT ³	[51:37:12]				4.7
Quality		100/1000 sq. ft., 3/seat, 500/acre***	7%	(6:4)	
Sit-down, high turnover		160/1000 sq. ft., 6/seat, 1000/acre***	8%	(5:5)	
Fast Food (w/drive-through)		650/1000 sq. ft., 20/seat, 3000/acre***	7%	(5:5)	
Fast Food (without drive-through)		700/1000 sq. ft.**	9%	(6:4)	
Delicatessen (7am-4pm)		150/1000 sq. ft., 11/seat*	9%	(6:4)	
TRANSPORTATION					
Bus Depot		25/1000 sq. ft.**			
Truck Terminal		10/1000 sq. ft., 7/bay, 80/acre**	9%	(4:6)	
Waterport/Marine Terminal		170/berth, 12/acre**			
Transit Station (Light Rail w/parking)		300/acre, 2 ^{1/2} /parking space (4/occupied)**	14%	(7:3)	
Park & Ride Lots		400/acre (600/paved acre), 5/parking space (8/occupied)* **	14%	(7:3)	

* Primary source: San Diego Traffic Generators.

Other sources: ITE Trip Generation Report (6th Edition), Trip Generation Rates (other agencies and publications), various SANDAG & CALTRANS studies, reports and estimates.

3 Trip category percentage ratios are daily from local household surveys, often cannot be applied to very specific land uses, and do not include non-resident drivers (draft SANDAG Analysis of Trip Diversion, revised November, 1990):

PRIMARY - one trip directly between origin and primary destination.

DIVERTED - linked trip (having one or more stops along the way to a primary destination) whose distance compared to direct distance ≥ 1 mile.

PASS-BY - undiverted or diverted < 1 mile.

1 Trip lengths are average weighted for all trips to and from general land use site. (All trips system-wide average length = 6.9 miles)

Fitted curve equation: $\ln(T) = 0.502 \ln(x) + 6.945$ } T = total trips, x = 1,000 sq. ft.

Fitted curve equation: $\ln(T) = 0.756 \ln(x) + 3.950$ }

Fitted curve equation: $t = -2.169 \ln(d) + 12.85$ t = trips/DU, d = density (DU/acre), DU = dwelling unit

3 Suggested PASS-BY (undiverted or diverted < 1 mile) percentages for trip rate reductions only during P.M. peak period (based on combination of local data/review and other sources**):

COMMERCIAL/RETAIL	
Regional Shopping Center	20%
Community	30%
Neighborhood	40%
Specialty Retail/Strip Commercial (other)	10%
Supermarket	40%
Convenience Market	50%
Discount Club/Store	30%
FINANCIAL	
Bank	25%
AUTOMOBILE	
Gasoline Station	50%
RESTAURANT	
Quality	10%
Sit-down high turnover	20%
Fast Food	40%

4 Trip Reductions - In order to help promote regional "smart growth" policies, and acknowledge San Diego's expanding mass transit system, consider vehicle trip rate reductions (with proper documentation and necessary adjustments for peak periods). The following are some examples:

[1] A 5% daily trip reduction for land uses with transit access or near transit stations accessible within 1/4 mile.

[2] Up to 10% daily trip reduction for mixed-use developments where residential and commercial retail are combined (demonstrate mode split of walking trips to replace vehicular trips).

County of San Diego Level of Service Thresholds

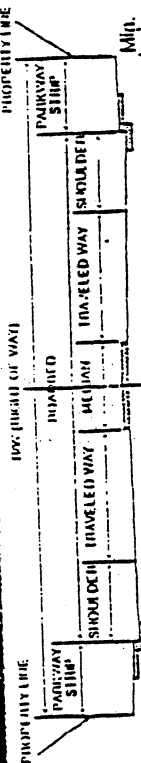
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1954-1955

SUMMARY OF COUNTY OF SAN DIEGO PUBLIC ROAD STANDARDS

CLASS

CIRCULATION ELEMENT ROAD CROSS SECTION



LEVEL OF SERVICE (LOS)

A Free flow
B Steady flow
C Stable flow
D Approach unstable flow
E Unstable flow

<36,000 <54,000 <70,000 <86,000 <101,000

<22,200 <37,000 <44,600 <50,000 <57,000

<14,800 <24,700 <29,600 <33,400 <37,000

<13,700 <22,800 <27,400 <30,800 <34,200

<1,900 <4,100 <7,100 <10,900 <16,200

<1,900 <4,100 <7,100 <10,900 <16,200

<1,900 <4,100 <7,100 <10,900 <16,200

<1,900 <4,100 <7,100 <10,900 <16,200

<1,900 <4,100 <7,100 <10,900 <16,200

<1,900 <4,100 <7,100 <10,900 <16,200

NON-CIRCULATION ROAD

RESIDENTIAL COLLECTOR	12'	8'	10'	40'	60'	300'	12%	30
RESIDENTIAL STREET	12'	6'	10'	36'	56'	200'	15%	30
RESIDENTIAL STREET	12'	4'	10'	32'	52'	200'	15%	30

Levels of service are not applied to non-circulation roads since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and destinations. For all non-circulation road classifications, trip generators and destinations are shown.

For full standards, refer to Public Road Standards, adopted by the Board of Supervisors on 2/2/67

Classifications and minimum standards for C.F. roads in urban areas, based on 12th, 15th, and 20th, respectively C.F. roads requiring additional standards only in rural mountain areas.

County of San Diego *Draft Guidelines for Determining Significance*

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1. The first part of the document is a list of the names of the persons who were present at the meeting.

COUNTY OF SAN DIEGO
GUIDELINES FOR DETERMINING SIGNIFICANCE

TRANSPORTATION AND TRAFFIC



LAND USE AND ENVIRONMENT GROUP

Department of Planning and Land Use
Department of Public Works

September 26, 2006

3.4 Hazards to Pedestrians or Bicyclists

Increased traffic generated or redistributed by a proposed project may cause a significant traffic operational impact to pedestrians or bicyclists and result in potential hazards. These hazards can occur for a variety reasons including:

- A design feature or physical configurations on a road segment or at an intersection that may adversely affect the visibility of pedestrians or bicyclists to drivers entering and exiting the site, and the visibility of cars to pedestrians and bicyclists;
- High amount of pedestrian activity at the project access points.
- Precluding or substantially hindering of the provision of a planned bike lane or pedestrian facility on a roadway adjacent to the project site.
- The physical conditions of the project site and surrounding area, such as curves, slopes, walls, landscaping or other barriers may result in vehicle/pedestrian, vehicle/bicycle conflicts.
- The project may result in a substantial increase in pedestrian or bicycle activity without the presence of adequate facilities.

3.5 Parking Capacity

Typical adverse effects on parking occur when an adequate number of spaces are not incorporated in a project design. The regulations are intended to require adequate off-street parking and loading, thereby reducing traffic congestion, allowing more efficient utilization of on-street parking, promoting more efficient loading operations, and reducing the use of public streets for loading purposes. Additionally, the regulations are intended to minimize the secondary effects of vehicles. These may include vehicular noise or visual impacts from headlights and unscreened parked vehicles. Unscreened parked vehicles are a particular concern when parking adjoins or is adjacent to residential areas or preserve systems that are sensitive to noise and lighting.

4.0 GUIDELINES FOR DETERMINING IMPACT SIGNIFICANCE

This section provides guidance for evaluating adverse environmental effects a project may have on traffic. The guidelines for determining significance are organized into eight categories: road segments, intersections, ramps, congestion management plan, hazards due to an existing transportation design feature, hazards to pedestrians or bicyclists, parking capacity, and alternative transportation. A discussion of how to evaluate project and cumulative level impacts is also included in the Transportation and Traffic Report Format and Content Requirement.

4.1 Road Segments

Pursuant to the County's General Plan Public Facilities Element (PFE), new development must provide improvements or other measures to mitigate traffic impacts to avoid:

- (a) Reduction in Level of Service (LOS) below "C" for on-site Circulation Element roads;
- (b) Reduction in LOS below "D" for off-site and on-site abutting Circulation Element roads; and
- (c) "Significantly impacting congestion" on roads that operate at LOS "E" or "F".
If impacts cannot be mitigated, the project will be denied unless a statement of overriding findings is made pursuant to the State CEQA Guidelines. The PFE, however, does not include specific guidelines/thresholds for determining the amount of additional traffic that would "significantly impact congestion" on such roads, as that phrase is used in item (c) above.

The County has created the following guidelines to evaluate likely traffic impacts of a proposed project for road segments and intersections serving that project site, for purposes of determining whether the development would "significantly impact congestion" on the referenced LOS E and F roads. The guidelines are summarized in Table 1. The thresholds in Table 1 are based upon average operating conditions on County roadways. It should be noted that these thresholds only establish general guidelines, and that the specific project location must be taken into account in conducting an analysis of traffic impact from new development.

On-site Circulation Element Roads

PFE, Transportation, Policy 1.1 states that "new development shall provide needed roadway expansion and improvements on-site to meet demand created by the development, and to maintain a Level of Service C on Circulation Element Roads during peak traffic hours". Pursuant to this policy, a significant traffic impact would result if:

- *The additional or redistributed ADT generated by the proposed land development project will cause on-site Circulation Element Roads to operate below LOS C during peak traffic hours except within the Otay Ranch project as defined in the Otay Subregional Plan Text, Volume 2. PFE, Implementation Measure 1.1.2.*

Off-site Circulation Element Roads

PFE, Transportation, Policy 1.1 also states that "new development shall provide needed roadway expansion and improvements off-site to meet demand created

by the development, and to maintain a Level of Service D on Circulation Element Roads.” “New development that would significantly impact congestion on roads operating at LOS E or F, either currently or as a result of the project, will be denied unless improvements are scheduled to improve the LOS to D or better or appropriate mitigation is provided.” The PFE, however, does not specify what would significantly impact congestion or establish criteria for evaluating when increased traffic volumes would significantly impact congestion. The following significance guidelines provided are the County’s preferred method for evaluating whether or not increased traffic volumes generated or redistributed from a proposed project will “significantly impact congestion” on County roads, operating at LOS E or F, either currently or as a result of the project.

Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic volume or level of service traffic impact on a road segment, unless specific facts show that there are other circumstances that mitigate or avoid such impacts:

- *The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a Circulation Element Road or State Highway currently operating at LOS E or LOS F, or will cause a Circulation Element Road or State Highway to operate at a LOS E or LOS F as a result of the proposed project as identified in Table 1, or*
- *The additional or redistributed ADT generated by the proposed project will cause a residential street to exceed its design capacity.*

Table 1
Measures of Significant Project Impacts to Congestion on Road Segments
Allowable Increases on Congested Road Segments

Level of service	Two-lane road	Four-lane road	Six-lane road
LOS E	200 ADT	400 ADT	600 ADT
LOS F	100 ADT	200 ADT	300 ADT

Notes:

1. By adding proposed project trips to all other trips from a list of projects, this same table must be used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes any trips must mitigate a share of the cumulative impacts.
2. The County may also determine impacts have occurred on roads even when a project’s traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.

The first significance criterion listed in Table 1 addresses roadways presently operating at LOS E. Based on these criteria, an impact from new development on an LOS E road would be reached when the increase in average daily trips (ADT) on a two-lane road exceeds 200 ADT. Using SANDAG’s “Brief Guide for Vehicular Traffic Generation Rates for the San Diego Region” for most discretionary projects this would generate less than 25 peak hour trips. On average, during peak hour conditions, this would be

only one additional car every 2.4 minutes. Therefore, the addition of 200 ADT, in most cases, would result in changes to traffic flow that would not be noticeable to the average driver and therefore would not constitute a significant impact on the roadway. Significance criteria were also established for four-lane and six-lane roads operating at LOS E and are based upon the above 24 hour ADT significance criterion established for two-lane roads. The two-lane road criterion was doubled to determine impacts to four-lane roads and tripled to determine impacts to six-lane roads. This was considered to be conservative since the 24 hour per lane road capacity for a 4-lane road is more than double that of a two-lane road and the per lane capacity of a six-lane road is more than triple that of the two-lane road. For LOS E roads, the additional significance criteria are 400 ADT for a four-lane road and 600 ADT for a six-lane road. Similar to criterion for two-lane roads, the 400 ADT for a 4-lane road and 600 ADT for a 6-lane road criteria would generate less than 25 per lane peak hour trips for most discretionary projects. On average, during peak hour conditions, this would be only one additional car per lane every 2.4 minutes. The addition of 200 ADT per lane (400 ADT for a 4 lane road or 600 ADT for a 6 lane road) , in most cases, would result in changes to traffic flow that would not be noticeable to the average driver and therefore would not constitute a significant impact on the roadway. Road capacities based upon level of service for County roads (two-lane, four-lane and six-lane) are provided in Attachment A.

The second significance criteria listed in Table 1 addresses roadways presently operating at LOS F. Under LOS F congested conditions, small changes and disruptions to the traffic flow on County Circulation Element Roads can have a greater effect on traffic operations when compared to other LOS conditions. In order to better account for potential effects of increased traffic on LOS F roads more stringent significance criteria was established when compared to that for LOS E. Based on this guidance, an impact from new development on an LOS F road would be reached when the increase in average daily trips (ADT) on a two-lane road exceeds 100. Again, using SANDAG's "Brief Guide for Vehicular Traffic Generation Rates for the San Diego Region" for most discretionary projects this would generate less than 12.5 peak hour trips. On average, during peak hour conditions, this would be only one additional car every 4.8 minutes. The addition of 100 ADT, in most cases, would not be noticeable to the average driver and therefore would not constitute a significant impact on the roadway. The same approach used to determine significance criteria for four-lane and six-lane roads operating at LOS E was used to determine appropriate significance criteria for four-lane and six-lane roads operating at LOS F. Based on this approach, the significance criteria for a four-lane road (200 ADT) and for a six-lane road (300 ADT) would generate less than 12.5 per lane peak hour trips for most discretionary projects. On average, during peak hour conditions, this would be only one additional car per lane every 4.8 minutes. The addition of 100 per lane ADT (200 ADT for a 4-lane road and 300 ADT for a 6-lane road) would, in most cases, not be noticeable to the average driver and therefore would not constitute a significant impact on the roadway. In summary, under extremely congested LOS F conditions, small changes and disruptions to the traffic flow can significantly affect traffic operations and additional project traffic can increase the likelihood or frequency of these events. Therefore, the LOS F ADT significance criteria was set at 100 ADT (50% of the LOS E threshold) to provide a higher level of assurance

that the traffic allowed under the threshold would not significantly impact traffic operation on the road segment.

Non-Circulation Element Residential Streets

Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots and not to carry through traffic, however, for projects that will substantially increase traffic volumes on residential streets, a comparison of the traffic volumes on the residential streets with the recommended design capacity must be provided. Recommended design capacities for residential non-Circulation Element streets are provided in the San Diego County Public and Private Road Standards. Traffic volume that exceeds the design capacity on residential streets may impact residences and should be analyzed on a case-by-case basis.

4.2 Intersections

This section provides guidance for evaluating adverse environmental effects a project may have on signalized and unsignalized intersections.

4.2.1 Signalized

Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic volume or level of service traffic impact on a road segment:

- *The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a signalized intersection currently operating at LOS E or LOS F, or will cause a signalized intersection to operate at a LOS E or LOS F as identified in Table 2.*

Table 2
Measures of Significant Project Impacts to Congestion on Intersections
Allowable Increases on Congested Intersections

Level of service	Signalized	Unsignalized
LOS E	Delay of 2 seconds	20 peak hour trips on a critical movement
LOS F	Delay of 1 second, or 5 peak hour trips on a critical movement	5 peak hour trips on a critical movement

Notes:

1. A critical movement is one that is experiencing excessive queues.
2. By adding proposed project trips to all other trips from a list of projects, these same tables are used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes any trips must mitigate a share of the cumulative impacts.
3. The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.

The significance criterion for signalized intersections identified in Table 2 allows an increase in the overall delay at an intersection operating at LOS E of two seconds. This is consistent with the capacity threshold contained in the SANDAG's CMP and guidelines established by the City of San Diego. A delay of two seconds is a small fraction of the typical cycle length for a signalized intersection that ranges between 60 and 120 seconds. The likelihood of increased queues forming due to the additional two seconds of delay is low. Therefore, an increased wait time of two seconds, on average, would result in changes to traffic flow that would not be noticeable to the average driver. Therefore the significance guideline for intersections operating at LOS E is 2 seconds.

The primary significance criterion for signalized intersections operating at LOS F conditions was based upon increased delay at the intersection. Under LOS F congested conditions, small changes and disruptions to the traffic flow to signalized intersections can have a greater effect on overall intersection operations when compared to other LOS conditions. In order to better account for potential effects of increased traffic at signalized intersections operating at LOS F, a more stringent guideline was established when compared to signalized intersection operating at LOS E. A significance guideline of an increased delay of 1 second was established for signalized intersections operating at LOS F. An increase in the overall delay at an intersection of one second, on average, would result in changes to traffic flow that would not be noticeable to the average driver. Therefore the significance guideline for intersections operating at LOS F is 1 second.

Signalized intersections operating at LOS F also have the potential for substantial queuing at specific turning movements that may detrimentally effect overall intersection and/or road segment operations. Thus, an increase of peak hour trips to a critical move was also established as a secondary significance criterion for signalized intersections. A critical movement would be a movement or a lane at an intersection that is experiencing queuing or substantial delay and is affecting the overall operation of the intersection. The increase in peak hour trips to a critical move is a measurement of how many cars can be added to an existing queue. The addition of five trips (peak hour) per critical movement will normally be considered a significant impact. This significance criterion was selected because the five additional trips spread out over the peak hour would not significantly increase the length of an existing queue and would not be noticeable to the average driver (one trip every 12 minutes or 720 seconds). For LOS E intersections, the 5 peak hour trips to a critical movement would not be noticeable to the average driver since the one additional trip during the 12 minute interval on average would clear the traffic signal cycles well within the 12 minute period. It should also be noted that if the 5 additional peak hour trips arrived at the same time these trips would also clear the traffic cycle and existing queue lengths would be re-established.

4.2.2 Unsignalized

The operating parameters and conditions for unsignalized intersections differ dramatically from those of signalized intersections. Very small volume increases on one leg or turn and/or through movement of an unsignalized intersection can substantially affect the calculated delay for the entire intersection. Significance criteria for unsignalized intersections are based upon a minimum number of trips added to a critical movement at an unsignalized intersection.

Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic volume or level of service traffic impact on a road segment:

- *The additional or redistributed ADT generated by the proposed project will add 20 or more peak hour trips to a critical movement of an unsignalized intersection, and cause an unsignalized intersection to operate below LOS D, or*
- *The additional or redistributed ADT generated by the proposed project will add 20 or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS E, or*
- *The additional or redistributed ADT generated by the proposed project will add 5 or more peak hour trips to a critical movement of an unsignalized intersection, and cause the unsignalized intersection to operate at LOS F, or*
- *The additional or redistributed ADT generated by the proposed project will add 5 or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS F, or*
- *Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance or other factors, it is found that the generation rate is less than those specified above, and would significantly impact the operations of the intersection.*

The significance guidelines for unsignalized intersections identify a minimum number of trips added to a critical movement at an unsignalized intersection. Since the operations of unsignalized intersections under congested conditions are heavily influenced by traffic volume increases on critical moves, the significance guidelines for unsignalized intersections were based upon the number of trips added to a critical movement. This guideline directly relates to the number of vehicles that can be added to an existing queue that forms at the intersection. A significance criteria of twenty trips (peak hour) per critical movement was used for LOS E conditions. Although delays drivers experience under LOS E condition may be noticeable, they are not yet considered

unacceptable. The twenty trips spread out over the peak hour would not likely cause the intersection delay or existing queue lengths to become unacceptable. The twenty trips (peak hour) would not be noticeable to the average driver. A significance guideline of five trips (peak hour) per critical movement was used for LOS F conditions. The five trips spread out over the peak hour would not significantly increase the length of an existing queue and would not be noticeable to the average driver.

The operations of unsignalized intersections under congested conditions are heavily influenced by traffic volume increases on critical moves. Therefore, the significance guidelines for unsignalized intersections are based upon the number of peak hour trips added to a critical movement at that intersection. This guideline examines the number of vehicles that may be added to an existing queue that forms at the intersection by the additional traffic generated by a project. In LOS E situations, the delays that drivers experience are noticeable, but are not considered excessive. A peak hour increase of twenty trips to the critical movement of an unsignalized intersection would be, on average, one additional car every 3.0 minutes or 180 seconds. Assuming the average wait time for a vehicle in the critical movement queue is less than 3.0 minutes, which is typical for LOS E condition, this would not be noticeable to the average driver and would not be considered a significant impact.

For LOS F conditions, a significance threshold of five trips (peak hour) per critical movement was used. The five trips spread out over the peak hour would not significantly increase the length of an existing queue and would not be noticeable to the average driver. Five trips spread out over an hour would be one car every 12 minutes. This typically exceeds the average wait time in the queue and would not be noticeable to the average driver.

4.3 Ramps

Additional or redistributed ADT generated by the proposed project may significantly increase congestion at a freeway ramp. Caltrans' "Guide for the Preparation of Traffic Impact Studies" states that an operational analysis based upon Caltrans Highway Design Manual should be used in the evaluation of the ramps and in the preparation of the operational analysis that Caltrans' Ramp Metering Guidelines should be used. However, specific criteria for the determination of an impact at a ramp are not provided in the above documents.

The CMP includes guidelines for the determination of traffic impacts at a ramp. These guidelines are summarized in Table 3. Table 3 may be used as a guide in determining significant increases in congestion on ramps and for addressing congestion management plan impacts. Other factors that may be considered include ramp metering, location (rural vs. urban), ramp design, and the proximity of adjacent intersections. Coordination with Caltrans and the local jurisdiction should be conducted to determine appropriate impact criteria for the specific ramps being assessed.

4.4 Congestion Management Plan

Projects that generate over 2,400 ADT or 200 peak hour trips, must comply with the traffic study requirements of SANDAG's Congestion Management Plan. Trip distributions for these projects must also use the current regional computer traffic model. Projects that must prepare a CMP analysis should also follow the CMP traffic impact analysis guidelines. A summary of these guidelines is provided in Table 3.

Table 3
Measure of Significant Project Traffic Impacts for Circulation Element Roads, Signalized Intersections, and Ramps

Level of Service With Project	Allowable Change Due to Project Impact						
	Freeways		Roadway Segments*		Intersections**	Ramps***	Ramps with >15 min. delay
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)	Delay (min.)
E & F	0.01	1	0.02	1	2	-	2

* For County arterials, which are not identified in SANDAG's Regional Transportation Plan and Congestion Management Plan as regionally significant arterials, significance may be measured based upon an increase in average daily trips. The allowable change in ADT due to project impacts in this instance would be identified in Table 1.

** Signalized intersections.

*** See the Transportation and Traffic Report Format and Content Requirements for guidance on ramp metering analysis.

KEY

V/C	=	Volume to Capacity ratio
Speed	=	Speed measured in miles per hour
Delay	=	Average stopped delay per vehicle measured in seconds, or minutes
LOS	=	Level of Service
ADT	=	Average Daily Trips

4.5 Hazards Due to an Existing Transportation Design Feature

Many roadways and intersections in the County were designed and constructed prior to the adoption of current road design standards. The design of the roadways and intersections, while adequate for existing traffic volumes, may pose an increased risk if traffic volumes substantially increase along the road segment or at the intersection as a result of the proposed project. Increased traffic generated or redistributed by a proposed project may cause a significant traffic operational impact to an existing transportation design feature. Therefore, it is necessary to evaluate potential hazards to an existing transportation design feature.

The determination of significant hazards to an existing transportation design feature shall be on a case-by-case basis, considering the following factors:

- Design features/physical configurations of access roads may adversely affect the safe transport of vehicles along the roadway.
- The percentage or magnitude of increased traffic on the road due to the proposed project may affect the safety of the roadway.
- The physical conditions of the project site and surrounding area, such as curves, slopes, walls, landscaping or other barriers, may result in vehicle conflicts with other vehicles or stationary objects.
- The project does not conform to the requirements of the private or public road standards, as applicable.

4.6 Hazards to Pedestrians or Bicyclists

Many roadways and intersections in the County do not have pedestrian or bicycle facilities. The roadways and intersections, while adequate for current conditions, may pose an increased risk if traffic volumes, pedestrian volumes, or bicycle volumes substantially increase along the road segment or at the intersection, as a result of the proposed project. Increased traffic generated or redistributed by a proposed project may cause a significant traffic operational impact to pedestrians or bicyclists. Therefore, it is necessary to evaluate potential hazards to pedestrians or bicyclists.

The determination of significant hazards to pedestrians or bicyclists shall be on a case-by-case basis, considering the following factors:

- Design features/physical configurations on a road segment or at an intersection that may adversely affect the visibility of pedestrians or bicyclists to drivers entering and exiting the site, and the visibility of cars to pedestrians and bicyclists.
- The amount of pedestrian activity at the project access points may adversely affect pedestrian safety.
- The project may result in the preclusion or substantial hindrance of the provision of a planned bike lane or pedestrian facility on a roadway adjacent to the project site.
- The percentage or magnitude of increased traffic on the road due to the proposed project may adversely affect pedestrian and bicycle safety.
- The physical conditions of the project site and surrounding area, such as curves, slopes, walls, landscaping or other barriers may result in vehicle/pedestrian, vehicle/bicycle conflicts.

- The project does not conform to the requirements of the private or public road standards, as applicable.
- The project may result in a substantial increase in pedestrian or bicycle activity without the presence of adequate facilities.

4.7 Parking Capacity

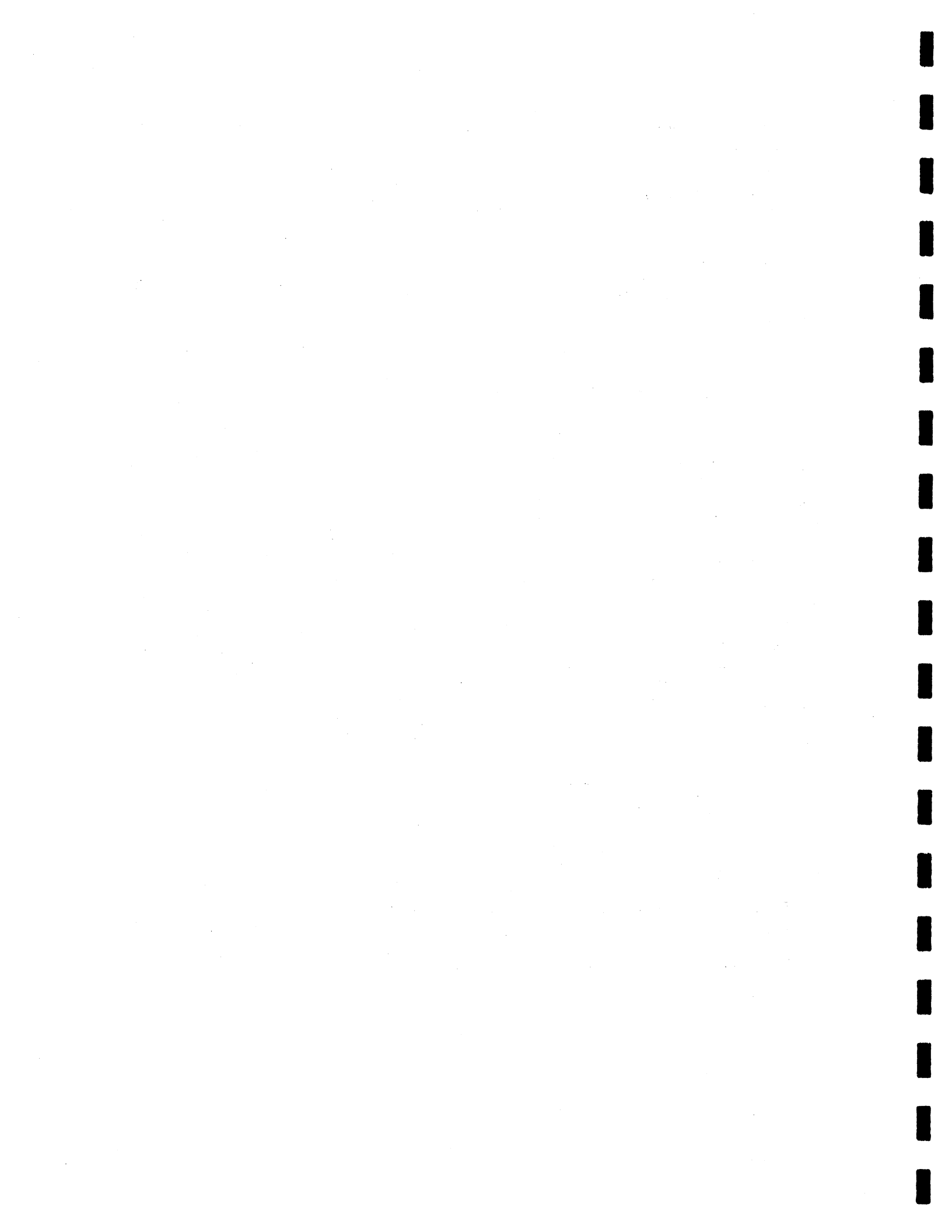
The following significance guideline will be considered a potentially significant parking capacity impact.

- ***The project cannot demonstrate compliance with the standards set forth by the County of San Diego Zoning Ordinance (Sections 6750-6799) and the County of San Diego Off-Street Parking Design Manual.***

Urban planners set minimum parking requirements for every land use type. These requirements are designed to ensure that land developers will provide enough spaces to satisfy the peak demand for parking to the subject use. The requirements are typically listed in a jurisdiction's zoning ordinance and this is the case in the County of San Diego, with a supplemental Off-Street Parking Design Manual. The establishment of minimum standards in the Zoning Ordinance is primarily based on surveys of nearby cities and consultation with professional traffic engineering association publications, such as the Institute of Transportation Engineers (ITE) handbooks. Identifying an adequate number of peak hour parking spaces for each use is not an exact science and there is no uniform formula or origin of minimum parking requirements (Shoup, 1999). Instead minimum parking standards have been developed through a trial and error process to identify the appropriate minimum standards for the subject jurisdictions. The County of San Diego practiced this same technique when parking minimum parking standards were last updated in 1985. Based on the continued fine-tuning of minimum parking standards, non-compliance with the County of San Diego Zoning Ordinance and Off-Street Parking Design Manual will result in a potentially significant impact.

4.8 Alternative Transportation

Alternative transportation is addressed in the County's General Plan Public Facilities Element (PFE). The County's stated objective for alternative transportation is addressed by the PFE, Objective 4. Objective 4 asks for a "Reduction in the demand on the road system through increased public use of alternate forms of transportation and other means." Pursuant to Objective 4, Policies 4.1 – 4.4 establish a means for the County to meet the objective. As such, if a proposed project is not in conformance with the applicable alternative transportation policies in the PFE, a significant conflict with the County's alternative transportation policies may occur.



Excerpts from the Public Facility Element

Part XII Public Facility Element

San Diego County General Plan

Adopted
March 13, 1991
GPA 90-FE
Amended
June 10, 1992
GPA92-FE1

Section 1 - Introduction.....	XII-1-1
Section 2 - Coordination Among Facility Planning, Financing Programs and Land Use Planning.....	XII-2-1
Section 3 - Parks and Recreation.....	XII-3-1
Section 4 - Transportation.....	XII-4-1
Section 5 - Flood Control.....	XII-5-1
Section 6 - Solid Waste.....	XII-6-1
Section 7 - Law Enforcement.....	XII-7-1
Section 8 - Animal Control.....	XII-8-1
Section 9 - Libraries.....	XII-9-1
Section 10 - Schools.....	XII-10-1
Section 11 - Fire Protection and Emergency Services.....	XII-11-1
Section 12 - Wastewater.....	XII-12-1
Section 13 - Water Provision Systems.....	XII-13-1
Section 14 - Child Care.....	XII-14-1
Section 15 - Courts and Jails.....	XII-15-1
Section 16 - Social Services.....	XII-16-1
Section 17 - Health.....	XII-17-1
Section 18 - Senior Services.....	XII-18-1
Section 19 - County Administration.....	XII-19-1
Section 20 - Facilities Located in City Spheres.....	XII-20-1

This Element was partially funded through the Community Development Block Grant program

ISSUES

1. Increases in the amount of automobile use have resulted in increased congestion on the region's roadways.

Discussion: The dramatic rise in automobile use has far surpassed the ability of the County and other jurisdictions to upgrade and maintain the highway and road system. As the number of vehicles on the roadways has increased, the expansion of existing roadways and the construction of new roadways has not kept pace. Between 1978 and 1988, automobile registrations increased by 64% while increases in local street and road mileage only rose by 16%. As a result, certain roadways are functioning at a Level of Service "E" or "F" on a routine basis.

A LOS "C", which allows for stable traffic flow with room to maneuver, is a generally accepted level to strive for in new development. At this level, traffic generally flows smoothly, although freedom to maneuver within the roadway is somewhat restricted and lane changes require additional care.

However, there are some cases where development cannot achieve a LOS "C" on off-site roadways. For instance, there are areas where the existing development pattern precludes the addition of lanes or other mitigation or when the community is opposed to certain improvements to maintain a LOS "C". Additionally, there are existing roadways in the County that are currently operating below a LOS "C". Such cases are currently exceptions and generally occur when there is insufficient right-of-way to expand or modify a roadway or when the existing development in the area has generated more traffic than anticipated. In these cases a Level of Service "D" is acceptable on off-site roadways. At this level, small increases in flow cause substantial deterioration in service. Freedom to maneuver is limited and minor incidents can cause substantial interruption in the traffic flow.

When the roadway system reaches a LOS "E" or "F", or new development would push it to LOS "E" or "F", new development should not be approved unless the project can mitigate the LOS "E" or contribute a fair share to a program to mitigate the project's impacts, unless a statement of overriding findings can be made.

In order to control the amount of traffic on the roadways, and subsequently the amount of congestion, it is necessary to apply the LOS measurement to all roads that are impacted by a proposed project. The effect of a project on the road system varies from project to project. Due to the size and type of project, the type and capacity of roads serving the project, the amount of traffic generated by the development and the existing development pattern, the impact will vary from one project to another. To apply a LOS standard to only major or larger capacity roads or to within a specified geographic distance of a project could result in an inadequate review of the impacts of a project and create the potential for increased congestion. Therefore, project impacts should be assessed on a case-by-case basis.

GOALS, OBJECTIVES, POLICIES AND IMPLEMENTATION MEASURES

GOAL

A SAFE, CONVENIENT, AND ECONOMICAL INTEGRATED TRANSPORTATION SYSTEM INCLUDING A WIDE RANGE OF TRANSPORTATION MODES.

OBJECTIVE 1:

A Level of Service "C" or better on County Circulation Element roads.

Policy 1.1: New development shall provide needed roadway expansion and improvements on-site to meet the demand created by the development, and to maintain a Level of Service "C" on Circulation Element Roads during peak traffic hours. New development shall provide off-site improvements designed to contribute to the overall achievement of a Level of Service "D" on Circulation Element Roads.

Implementation Measure 1.1.1: Review all development proposals to determine both their short-term and long-term impacts on the roadway system. The area of impact will be determined based on the size, type and location of the project; the traffic generated by the project; and the existing circulation and development pattern in the area. [DPW, DPLU]

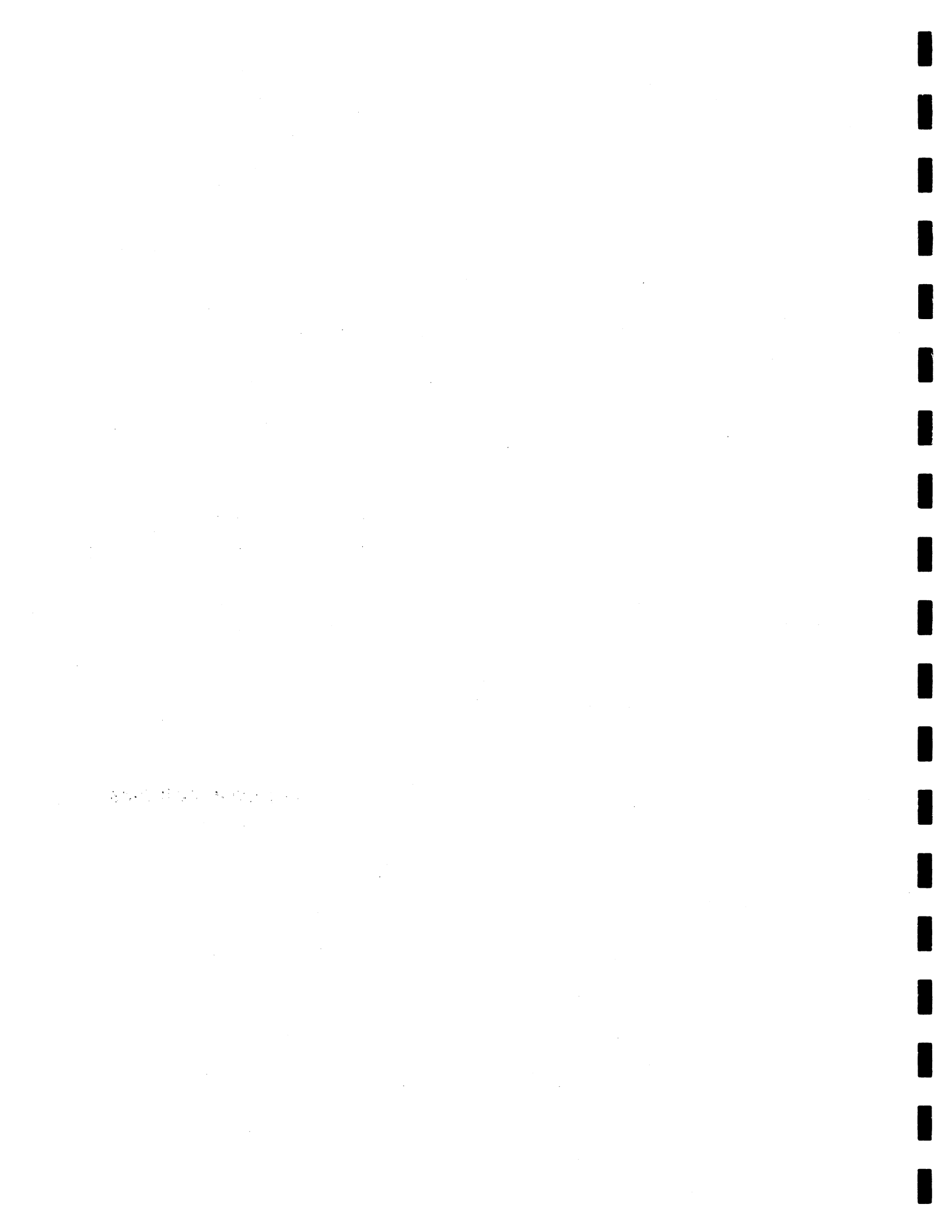
Implementation Measure 1.1.2: Require, as a condition of approval of discretionary projects, improvements or other measures necessary to mitigate traffic impacts to avoid reduction in the existing Level of Service below "C" on on-site Circulation Element roads. [DPLU, DPW]

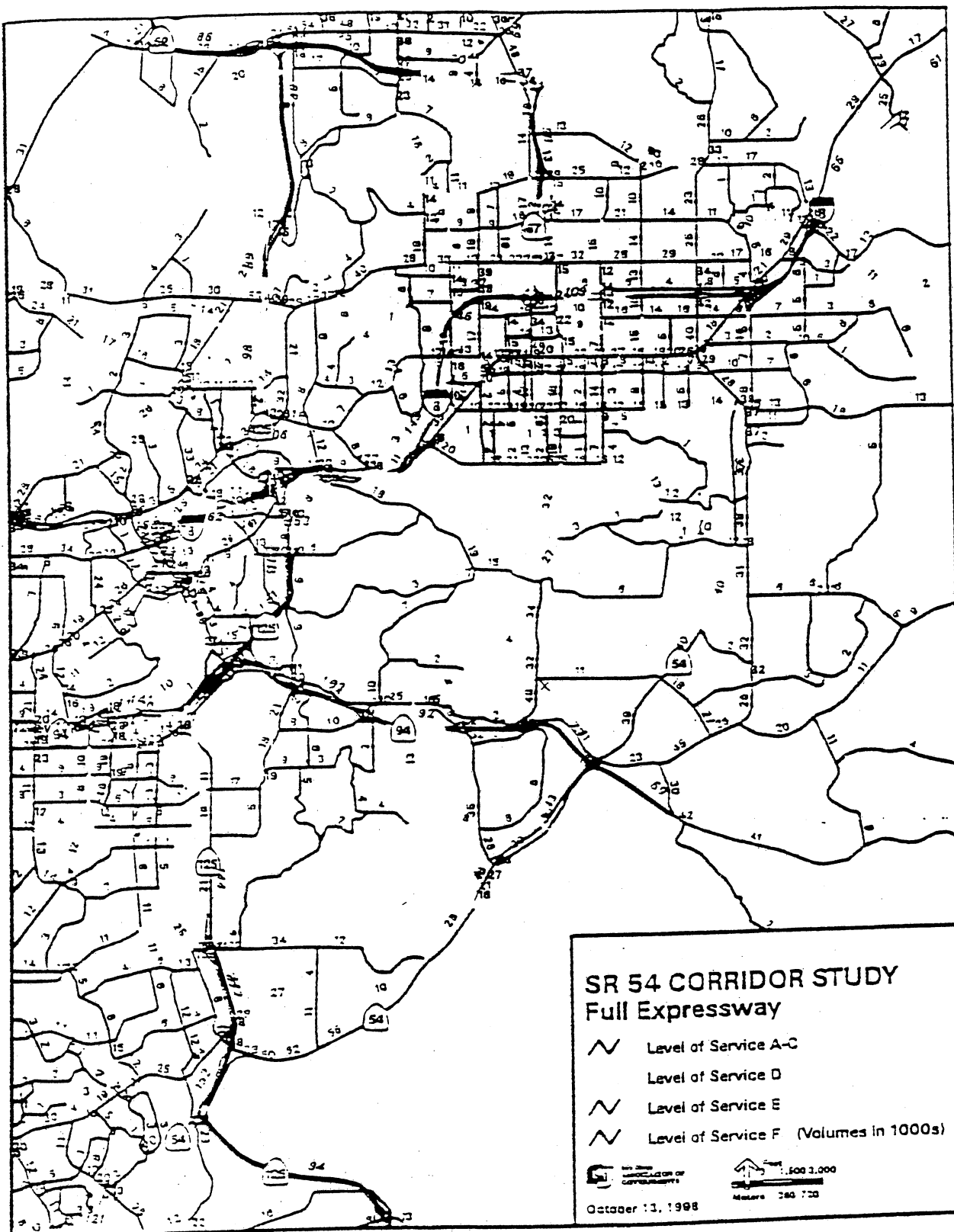
Implementation Measure 1.1.3: Require, as a condition of approval of discretionary projects which have a significant impact on roadways, improvements or other measures necessary to mitigate traffic impacts to avoid reduction in the existing Level of Service below "D" on off-site and on-site abutting Circulation Element roads. New development that would significantly impact congestion on roads at LOS "E" or "F", either currently or as a result of the project, will be denied unless improvements are scheduled to increase the LOS to "D" or better or appropriate mitigation is provided. Appropriate mitigation would include a fair share contribution in the form of road improvements or a fair share contribution to an established program or project. If impacts cannot be mitigated, the project will be denied unless a specific statement of overriding findings is made pursuant to Section 15091(b) and 15093 of the State CEQA Guidelines. [DPLU, DPW]

Implementation Measure 1.1.4: Whenever possible on development proposals, require that access to parcels adjacent to roads shown on the Circulation Element be limited to side streets in order to maintain through traffic flow. [DPW, DPLU]

Forecast Volumes

A 52





TIF FEE

A54

1972-1973

County of San Diego TIF Program
VALLE DE ORO FEE SCHEDULE

LAND USE CATEGORY	APPLICABLE FEE		
	Regional	Local	Total
Tennis Courts	\$3,625 / acre	\$5,023 / acre	\$8,649 / acre
Sports Facilities			
Outdoor Stadium	\$11,330 / acre	\$15,698 / acre	\$27,027 / acre
Indoor Arena	\$6,798 / acre	\$9,419 / acre	\$16,216 / acre
Racetrack	\$9,064 / acre	\$12,558 / acre	\$21,622 / acre
Theaters (multiplex w/matinee)	\$16,534 / ksf	\$22,908 / ksf	\$39,442 / ksf
RESIDENTIAL			
Estate, Urban or Rural	\$2,898 / unit	\$4,016 / unit	\$6,914 / unit
(average 1-2 DU/acre)			
Single Family Detached	\$2,415 / unit	\$3,347 / unit	\$5,762 / unit
(average 3-6 DU/acre)			
Condominium	\$1,932 / unit	\$2,677 / unit	\$4,609 / unit
(or any multi-family 6-20 DU/acre)			
Apartment	\$1,449 / unit	\$2,008 / unit	\$3,457 / unit
(or any multi-family units more than 20 DU/acre)			
Military Housing (off-base, multifamily)			
(less than 6 DU/acre)	\$1,932 / unit	\$2,677 / unit	\$4,609 / unit
(6-20 DU/acre)	\$1,449 / unit	\$2,008 / unit	\$3,457 / unit
Mobile Home			
Family	\$1,208 / unit	\$1,673 / unit	\$2,881 / unit
Adults Only	\$725 / unit	\$1,004 / unit	\$1,729 / unit
Retirement Community	\$966 / unit	\$1,339 / unit	\$2,305 / unit
Congregate Care Facility	\$605 / unit	\$838 / unit	\$1,443 / unit
RESTAURANT			
Quality	\$21,912 / ksf	\$30,360 / ksf	\$52,272 / ksf
Sit-down, high turnover	\$35,059 / ksf	\$48,576 / ksf	\$83,635 / ksf
Fast Food (w/drive-through)	\$142,428 / ksf	\$197,340 / ksf	\$339,768 / ksf
Fast Food (without drive-through)	\$153,384 / ksf	\$212,520 / ksf	\$365,904 / ksf
Delicatessen (7am-4pm)	\$32,868 / ksf	\$45,540 / ksf	\$78,408 / ksf
TRANSPORTATION			
Bus Depot	\$6,225 / ksf	\$8,625 / ksf	\$14,850 / ksf
Truck Terminal	\$2,490 / ksf	\$3,450 / ksf	\$5,940 / ksf
Waterport/Marine Terminal	\$42,330 / berth	\$58,650 / berth	\$100,980 / berth
Transit Station (Light Rail w/parking)	\$74,700 / acre	\$103,500 / acre	\$178,200 / acre
Park & Ride Lots	\$99,600 / acre	\$138,000 / acre	\$237,600 / acre
Park & Ride Lots	\$99,600 / acre	\$138,000 / acre	\$237,600 / acre

APPENDIX B
► Existing Conditions Worksheets

10. 11. 1944

11. 11. 1944

Table B1

Existing Freeway Segment Volumes and Level of Service Summary

Route	Limits	# Lanes	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	v/c Ratio	LOS
SR94	Sweetwater Springs to Avocado	2	4,400	57,000	8.60%	55.0%	5.0%	0.643	C

Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes

Capacity - Capacity in one direction

ADT - Average Daily Traffic

Peak Hour % - Percentage of average daily traffic occurring during the peak hour

Direction Split - Percentage of peak hour traffic traveling in peak direction.

Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.

Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.

v/c Ratio - Volume to Capacity Ratio

LOS - Caltrans District 11 procedure was used to estimate the freeway level of service. Designations vary from A to F, with four level of LOS F from F(0) to F(3).

SHORT REPORT

General Information

Analyst *R Peaslee/V Haskell/J Bavos*
 Agency or Co. *Darnell & Associates*
 Date Performed *02/09/2006*
 Time Period *AM Peak Hour*

Site Information

Intersection *Fuerte Dr/Avocado Blvd*
 Area Type *All other areas*
 Jurisdiction *County of San Diego*
 Analysis Year *Existing*

Volume and Timing Input

Volume and Timing Input										SB		
	EB			WB			NB					
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
	1	1	1	1	1	1	1	2	0	1	2	0
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Lane Group	L	T	R	L	T	R	L	TR		L	TR	
Volume (vph)	86	110	107	123	230	35	333	728	47	72	631	176
% Heavy Vehicles	2	2	2	2	2	2	2	2	2	2	2	2
PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Arrival Type	3	3	3	3	3	3	3	3		3	3	
Unit Extension	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0	0	0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	EB Only	WB Only	03	04	Excl. Left	NB Only	Thru & RT	08				
Timing	G = 10.0	G = 16.5	G =	G =	G = 12.0	G = 7.0	G = 31.5	G =				
	Y = 4.5	Y = 4.5	Y =	Y =	Y = 4.5	Y = 0	Y = 4.5	Y =				
Duration of Analysis (hrs) = 0.25			Cycle Length C = 95.0									

Lane Group Capacity, Control Delay, and LOS Determination

Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
Adjusted Flow Rate	102	131	127	146	274	42	396	923		86	961	
Lane Group Capacity	186	196	558	307	324	550	438	1424		224	1137	
v/c Ratio	0.55	0.67	0.23	0.48	0.85	0.08	0.90	0.65		0.38	0.85	
Green Ratio	0.11	0.11	0.35	0.17	0.17	0.35	0.25	0.41		0.13	0.33	
Uniform Delay d_1	40.4	40.9	21.6	35.4	38.0	20.8	34.7	22.8		38.1	29.5	
Delay Factor k	0.15	0.24	0.11	0.11	0.38	0.11	0.43	0.23		0.11	0.38	
Incremental Delay d_2	3.4	8.5	0.2	1.2	18.3	0.1	21.9	1.0		1.1	6.0	
PF Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		1.000	1.000	
Control Delay	43.8	49.4	21.9	36.5	56.3	20.8	56.5	23.8		39.2	35.5	
Lane Group LOS	D	D	C	D	E	C	E	C		D	D	
Approach Delay	38.1			46.8			33.6			35.8		
Approach LOS	D			D			C			D		
Intersection Delay	36.8			Intersection LOS						D		

Generated: 2/15/2006 3:00 PM Version 5.2

SHORT REPORT

General Information

Analyst *R Peaslee/V Haskell/J Bavos*
 Agency or Co. *Darnell & Associates*
 Date Performed *02/09/2006*
 Time Period *PM Peak Hour*

Site Information

Intersection *Fuerte Dr/Avocado Blvd*
 Area Type *All other areas*
 Jurisdiction *County of San Diego*
 Analysis Year *Existing*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Lane Group	L	T	R	L	T	R	L	TR		L	TR	
Volume (vph)	48	51	6	117	111	424	17	955	101	185	713	63
% Heavy Vehicles	2	2	2	2	2	2	2	2	2	2	2	2
PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Preempted/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Arrival Type	3	3	3	3	3	3	3	3		3	3	
Unit Extension	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Red/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
Grading/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0	0	0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	EB Only	WB Only	03	04	Excl. Left	NB Only	Thru & RT	08				
Timing	G = 15.0	G = 14.0	G =	G =	G = 15.0	G = 5.0	G = 34.0	G =				
	Y = 4.5	Y = 4.5	Y =	Y =	Y = 4.5	Y = 0	Y = 4.5	Y =				
Duration of Analysis (hrs) = 0.25									Cycle Length C = 101.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	49	52	6	119	113	433	17	1077		189	792	
Lane Group Capacity	263	277	619	245	258	525	429	1350		263	1180	
v/c Ratio	0.19	0.19	0.01	0.49	0.44	0.82	0.04	0.80		0.72	0.67	
Green Ratio	0.15	0.15	0.39	0.14	0.14	0.33	0.24	0.39		0.15	0.34	
Uniform Delay d_1	37.7	37.7	18.8	40.2	39.9	31.0	29.3	27.5		41.0	28.7	
Delay Factor k	0.11	0.11	0.11	0.11	0.11	0.36	0.11	0.34		0.28	0.24	
Incremental Delay d_2	0.3	0.3	0.0	1.5	1.2	10.4	0.0	3.5		9.1	1.5	
PW Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		1.000	1.000	
Control Delay	38.0	38.0	18.8	41.7	41.1	41.4	29.3	31.0		50.1	30.2	
Lane Group LOS	D	D	B	D	D	D	C	C		D	C	
Approach Delay	36.9			41.4			30.9			34.0		
Approach LOS	D			D			C			C		
Intersection Delay	34.7			Intersection LOS						C		

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	V Haskell/J Bavos
Agency/Co.	Darnell & Associates, Inc.
Date Performed	02/09/2006
Analysis Time Period	AM Peak

Site Information

Intersection	Chase Ave/Chase Ln
Jurisdiction	County of San Diego
Analysis Year	Existing

Project Description 030204-Fuerte Ranch

East/West Street: Chase Avenue

North/South Street: Chase Lane

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)	0	351	57	14	660	1
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR (veh/h)	0	369	60	14	694	1
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					0
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration	LTR			L		TR
Upstream Signal		0			0	
Minor Street	Northbound			Southbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)	59	0	7	0	0	0
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR (veh/h)	62	0	7	0	0	0
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Flared Approach		Y			N	
Storage		1			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound		Northbound			Southbound		
	1	4	7	8	9	10	11	12
Movement	1	4						
Lane Configuration	LTR	L		LTR			LTR	
v (veh/h)	0	14		69			0	
C (m) (veh/h)	901	1130		198				
v/c	0.00	0.01		0.35				
95% queue length	0.00	0.04		1.47				
Control Delay (s/veh)	9.0	8.2		32.6				
LOS	A	A		D				
Approach Delay (s/veh)	--	--		32.6				
Approach LOS	--	--		D				

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TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	V Haskell/J Bavos		Intersection	Chase Ave/Chase Ln
Agency/Co.	Darnell & Associates, Inc.		Jurisdiction	County of San Diego
Date Performed	02/09/2006		Analysis Year	Existing
Analysis Time Period	PM Peak			

Project Description 030204-Fuerte Ranch		
East/West Street: Chase Avenue	North/South Street: Chase Lane	
Intersection Orientation: East-West	Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	873	40	2	464	0
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	0	909	41	2	483	0
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration	LTR			L		TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	25	0	4	0	0	0
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	26	0	4	0	0	0
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		Y			N	
Storage		1			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Line Configuration	LTR	L		LTR			LTR	
Volume (veh/h)	0	2		30			0	
C (m) (veh/h)	1080	723		133				
Volume (veh/h)	0.00	0.00		0.23				
95% queue length	0.00	0.01		0.82				
Control Delay (s/veh)	8.3	10.0		41.4				
LOS	A	A		E				
Approach Delay (s/veh)	--	--		41.4				
Approach LOS	--	--		E				

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	V Haskell/J Bavos
Agency/Co.	Darnell & Associates, Inc.
Date Performed	02/09/2006
Analysis Time Period	AM Peak

Site Information

Intersection	Chase Ave/Fuerte Dr
Jurisdiction	County of San Diego
Analysis Year	Existing

Project Description 030204-Fuerte Ranch

East/West Street: Chase Avenue

North/South Street: Fuerte Drive

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movement	Eastbound			Westbound		
	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		322	3	261	684	
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR (veh/h)	0	338	3	274	720	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					0
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration			TR	L	T	
Upstream Signal		0			0	

Minor Street Movement	Northbound			Southbound		
	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	2		171			
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR (veh/h)	2	0	180	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4						
Lane Configuration		L		LR				
v (veh/h)		274		182				
C (m) (veh/h)		1229		658				
v/c		0.22		0.28				
95% queue length		0.85		1.13				
Control Delay (s/veh)		8.8		12.5				
LOS		A		B				
Approach Delay (s/veh)	--	--		12.5				
Approach LOS	--	--		B				

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	V Haskell/J Bavos		Intersection	Chase Ave/Fuerte Dr
Agency/Co.	Darnell & Associates, Inc.		Jurisdiction	County of San Diego
Date Performed	02/09/2006		Analysis Year	Existing
Analysis Time Period	PM Peak			

Project Description 030204-Fuerte Ranch

East/West Street: Chase Avenue

North/South Street: Fuerte Drive

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		833	4	127	482	
Peak-Hour Factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Hourly Flow Rate, HFR (veh/h)	0	858	4	130	496	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Left Lanes	0	1	0	1	1	0
Configuration			TR	L	T	
Upstream Signal		0			0	

Major Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	5		172			
Peak-Hour Factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Hourly Flow Rate, HFR (veh/h)	5	0	177	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Left Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L		LR				
Volume (veh/h)		130		182				
Flow (m) (veh/h)		789		334				
Flow (veh/h)		0.16		0.54				
50th Queue length		0.59		3.09				
Control Delay (s/veh)		10.5		28.0				
Control Delay (s/veh)		B		D				
Approach Delay (s/veh)	--	--		28.0				
Approach LOS	--	--		D				

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	R Peaslee/J Bavos
Agency/Co.	Darnell & Associates, Inc.
Date Performed	02/09/2006
Analysis Time Period	AM Peak

Site Information

Intersection	Fuerte Farms/Damon
Jurisdiction	County of San Diego
Analysis Year	Existing

Project Description 030204-Fuerte Ranch

East/West Street: Fuerte Farms Rd

North/South Street: Damon Ln

Intersection Orientation: North-South

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movement	Northbound			Southbound		
	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	9	4			4	40
Peak-Hour Factor, PHF	0.50	0.50	0.50	0.50	0.50	0.50
Hourly Flow Rate, HFR (veh/h)	18	0	4	0	0	0
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					0
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT				0	TR
Upstream Signal		0				

Minor Street Movement	Eastbound			Westbound		
	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	9		2			
Peak-Hour Factor, PHF	0.50	0.50	0.50	0.50	0.50	0.50
Hourly Flow Rate, HFR (veh/h)	0	8	80	18	8	0
Percent Heavy Vehicles	2	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Northbound		Westbound			Eastbound		
	1	4	7	8	9	10	11	12
Movement							LR	
Lane Configuration	LT						22	
v (veh/h)	18						918	
C (m) (veh/h)	1508						0.02	
v/c	0.01						0.07	
95% queue length	0.04						9.0	
Control Delay (s/veh)	7.4						A	
LOS	A						9.0	
Approach Delay (s/veh)	--	--					A	
Approach LOS	--	--						

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	J Bavos		Intersection	Fuerte Farms/Damon
Agency/Co.	Darnell & Associates, Inc.		Jurisdiction	County of San Diego
Date Performed	02/09/2006		Analysis Year	Existing
Analysis Time Period	Midday Peak			

Project Description 030204-Fuerte Ranch		
East/West Street: Fuerte Farms Rd		North/South Street: Damon Ln
Intersection Orientation: North-South		Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	2	6			4	41
Peak-Hour Factor, PHF	0.61	0.61	0.61	0.61	0.61	0.61
Hourly Flow Rate, HFR (veh/h)	14	0	8	0	0	0
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Left Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Major Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	9		5			
Peak-Hour Factor, PHF	0.61	0.61	0.61	0.61	0.61	0.61
Hourly Flow Rate, HFR (veh/h)	0	6	67	3	9	0
Percent Heavy Vehicles	2	0	0	0	0	0
Percent Grade (%)		0			0	
Filtered Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Left Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Queue Configuration	LT						LR	
Volume (veh/h)	3						22	
Control Delay (s/veh)	1527						981	
Queue Length (veh)	0.00						0.02	
95% queue length	0.01						0.07	
Control Delay (s/veh)	7.4						8.8	
LOS	A						A	
Approach Delay (s/veh)	--	--					8.8	
Approach LOS	--	--					A	

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	J Bavos
Agency/Co.	Darnell & Associates, Inc.
Date Performed	02/09/2006
Analysis Time Period	

Site Information

Intersection	Fuerte Farms/Damon
Jurisdiction	County of San Diego
Analysis Year	Existing

Project Description 030204-Fuerte Ranch

East/West Street: Fuerte Farms Rd

North/South Street: Damon Ln

Intersection Orientation: North-South

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)	2	4			6	4
Peak-Hour Factor, PHF	0.45	0.45	0.45	0.45	0.45	0.45
Hourly Flow Rate, HFR (veh/h)	13	0	0	0	0	0
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT				0	TR
Upstream Signal		0				
Minor Street	Eastbound			Westbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)	6		0			
Peak-Hour Factor, PHF	0.45	0.45	0.45	0.45	0.45	0.45
Hourly Flow Rate, HFR (veh/h)	0	13	8	4	8	0
Percent Heavy Vehicles	2	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Northbound		Westbound			Eastbound		
	1	4	7	8	9	10	11	12
Movement							LR	
Lane Configuration	LT						13	
v (veh/h)	4						978	
C (m) (veh/h)	1595						0.01	
v/c	0.00						0.04	
95% queue length	0.01						8.7	
Control Delay (s/veh)	7.3						A	
LOS	A						8.7	
Approach Delay (s/veh)	--	--					A	
Approach LOS	--	--						

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	R Peaslee/J Bavos	Intersection	Fuerte Drive/Fuerte Farms
Agency/Co.	Darnell & Associates, Inc.	Jurisdiction	County of San Diego
Date Performed	02/09/2006	Analysis Year	Existing
Analysis Time Period	AM Peak		
Project Description 030204-Fuerte Ranch			
East/West Street: Fuerte Drive		North/South Street: Fuerte Farms	
Intersection Orientation: East-West		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		217	16	3	286	
Peak-Hour Factor, PHF	0.57	0.57	0.57	0.57	0.57	0.57
Hourly Flow Rate, HFR (veh/h)	0	380	28	5	501	0
Percent Heavy Vehicles	0	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Left Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Major Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	71		6			
Peak-Hour Factor, PHF	0.57	0.57	0.57	0.57	0.57	0.57
Hourly Flow Rate, HFR (veh/h)	124	0	10	0	0	0
Percent Heavy Vehicles	2	0	2	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Left Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
Volume (veh/h)		5		134				
Control (m) (veh/h)		1151		319				
Control Delay (s/veh)		0.00		0.42				
95th queue length		0.01		2.00				
Control Delay (s/veh)		8.1		24.2				
Level of Service		A		C				
Approach Delay (s/veh)	--	--	24.2					
Approach LOS	--	--	C					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	R Peaslee/J Bavos
Agency/Co.	Darnell & Associates, Inc.
Date Performed	02/09/2006
Analysis Time Period	PM Peak

Site Information

Intersection	Fuerte Drive/Fuerte Farms
Jurisdiction	County of San Diego
Analysis Year	Existing

Project Description 030204-Fuerte Ranch

East/West Street: Fuerte Drive

North/South Street: Fuerte Farms

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)		142	33	7	112	
Peak-Hour Factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Hourly Flow Rate, HFR (veh/h)	0	165	38	8	130	0
Percent Heavy Vehicles	0	--	--	2	--	--
Median Type	Undivided					0
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	
Minor Street	Northbound			Southbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)	19		5			
Peak-Hour Factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Hourly Flow Rate, HFR (veh/h)	22	0	5	0	0	0
Percent Heavy Vehicles	2	0	2	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4						
Lane Configuration		LT		LR				
v (veh/h)		8		27				
C (m) (veh/h)		1369		690				
v/c		0.01		0.04				
95% queue length		0.02		0.12				
Control Delay (s/veh)		7.6		10.4				
LOS		A		B				
Approach Delay (s/veh)	--	--	10.4					
Approach LOS	--	--	B					

B12

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	R Peaslee/V Haskell/J Bavos
Agency/Co.	Darnell & Associates Inc.
Date Performed	02/09/2006
Analysis Time Period	AM Peak

Site Information

Intersection	Fuerte/Chase Ln
Jurisdiction	County of San Diego
Analysis Year	Existing

Project Description 030204 - Fuerte Farms

East/West Street: Fuerte Drive

North/South Street: Chase Lane

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	43	168	3	0	227	10
Peak-Hour Factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Hourly Flow Rate, HFR (veh/h)	51	200	3	0	270	11
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	
Major Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	5	2	2	7	1	60
Peak-Hour Factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Hourly Flow Rate, HFR (veh/h)	5	2	2	8	1	71
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
Volume (veh/h)	51	0		9			80	
Control Delay (s/veh)	1282	1369		418			695	
95% queue length	0.04	0.00		0.02			0.12	
Control Delay (s/veh)	7.9	7.6		13.8			10.9	
LOS	A	A		B			B	
Approach Delay (s/veh)	--	--	13.8			10.9		
Approach LOS	--	--	B			B		

B13

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	R Peaslee/V Haskell/J Bavos		Intersection	Fuerte/Chase Ln
Agency/Co.	Darnell & Associates Inc.		Jurisdiction	County of San Diego
Date Performed	02/09/2006		Analysis Year	Existing
Analysis Time Period	PM Peak			

Project Description 030204 - Fuerte Farms

East/West Street: Fuerte Drive

North/South Street: Chase Lane

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)	20	164	1	5	107	5
Peak-Hour Factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79
Hourly Flow Rate, HFR (veh/h)	25	207	1	6	135	6
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					0
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)	4	5	2	31	2	9
Peak-Hour Factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79
Hourly Flow Rate, HFR (veh/h)	5	6	2	39	2	11
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4					LTR	
Lane Configuration	LTR	LTR		LTR				
v (veh/h)	25	6		13			52	
C (m) (veh/h)	1442	1363		555			584	
v/c	0.02	0.00		0.02			0.09	
95% queue length	0.05	0.01		0.07			0.29	
Control Delay (s/veh)	7.5	7.7		11.6			11.8	
LOS	A	A		B			B	
Approach Delay (s/veh)	--	--		11.6			11.8	
Approach LOS	--	--		B			B	

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	R Peaslee/V Haskell/J Bavos
Agency/Co.	Darnell & Associates Inc
Date Performed	02/09/2006
Analysis Time Period	AM Peak

Site Information

Intersection	Damon/Fuerte
Jurisdiction	County of San Diego
Analysis Year	Existing

Project Description 030204 - Fuerte Farms

East/West Street: Fuerte Dr

North/South Street: Damon Lane

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	60	155	22	10	301	15
Peak-Hour Factor, PHF	0.50	0.50	0.50	0.50	0.50	0.50
Hourly Flow Rate, HFR (veh/h)	120	310	44	20	602	30
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	11	1	15	10	0	9
Peak-Hour Factor, PHF	0.50	0.50	0.50	0.50	0.50	0.50
Hourly Flow Rate, HFR (veh/h)	22	2	30	20	0	18
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Shared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
Volume (veh/h)	120	20		54			38	
C (m) (veh/h)	951	1205		234			191	
Delay (s/veh)	0.13	0.02		0.23			0.20	
95% queue length	0.43	0.05		0.87			0.72	
Control Delay (s/veh)	9.3	8.0		24.9			28.5	
LOS	A	A		C			D	
Approach Delay (s/veh)	--	--		24.9			28.5	
Approach LOS	--	--		C			D	

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information				
Analyst	R Peaslee/V Haskell/J Bavos			Intersection	Damon/Fuerte			
Agency/Co.	Darnell & Associates Inc			Jurisdiction	County of San Diego			
Date Performed	02/09/2006			Analysis Year	Existing			
Analysis Time Period	MID Peak							
Project Description 030204 - Fuerte Farms				North/South Street: Damon Lane				
East/West Street: Fuerte Dr				Study Period (hrs): 0.25				
Intersection Orientation: East-West								
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	46	90	22	9	150	18		
Peak-Hour Factor, PHF	0.69	0.69	0.69	0.69	0.69	0.69		
Hourly Flow Rate, HFR (veh/h)	66	130	31	13	217	26		
Percent Heavy Vehicles	2	--	--	2	--	--		
Median Type	Undivided							
RT Channelized			0			0		
Lanes	0	1	0	0	1	0		
Configuration	LTR			LTR				
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	8	0	25	8	1	12		
Peak-Hour Factor, PHF	0.69	0.69	0.69	0.69	0.69	0.69		
Hourly Flow Rate, HFR (veh/h)	11	0	36	11	1	17		
Percent Heavy Vehicles	2	2	2	2	2	2		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	1	0	0	1	0		
Configuration		LTR			LTR			
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (veh/h)	66	13		47			29	
C (m) (veh/h)	1323	1418		710			573	
v/c	0.05	0.01		0.07			0.05	
95% queue length	0.16	0.03		0.21			0.16	
Control Delay (s/veh)	7.9	7.6		10.4			11.6	
LOS	A	A		B			B	
Approach Delay (s/veh)	--	--	10.4			11.6		
Approach LOS	--	--	B			B		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	R Peaslee/V Haskell/J Bavos	Intersection	Damon/Fuerte
Agency/Co.	Darnell & Associates Inc	Jurisdiction	County of San Diego
Date Performed	02/09/2006	Analysis Year	Existing
Analysis Time Period	PM Peak		
Project Description 030204 - Fuerte Farms		North/South Street: Damon Lane	
East/West Street: Fuerte Dr		Study Period (hrs): 0.25	
Intersection Orientation: East-West			

Vehicle Volumes and Adjustments

Major Street Movement	Eastbound			Westbound		
	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	3	134	5	7	105	2
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	3	139	5	7	109	2
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					0
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street Movement	Northbound			Southbound		
	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	2	0	5	2	0	10
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	2	0	5	2	0	10
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach			Northbound			Southbound		
	Eastbound	Westbound	7	8	9	10	11	12
Movement	1	4					LTR	
Lane Configuration	LTR	LTR		LTR			12	
v (veh/h)	3	7		7			883	
C (m) (veh/h)	1479	1438		821			0.01	
v/c	0.00	0.00		0.01			0.04	
95% queue length	0.01	0.01		0.03			9.1	
Control Delay (s/veh)	7.4	7.5		9.4			A	
LOS	A	A		A			9.1	
Approach Delay (s/veh)	--	--		9.4			A	
Approach LOS	--	--		A			A	

APPENDIX C

► Existing + Project Conditions Worksheets

the 1990s, the number of people in the world who are illiterate has declined by 100 million. The number of people who are illiterate in the world is now 1.2 billion. The number of people who are illiterate in the world is now 1.2 billion.

Table C1
Existing + Project Freeway Segment Volumes and Level of Service Summary

Route	Limits	# Lanes	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	v/c Ratio	LOS
SR94	Sweetwater Springs to Avocado	2	4,400	57,106	8.60%	55.0%	5.0%	0.645	C

Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes

Capacity - Capacity in one direction

ADT - Average Daily Traffic

Peak Hour % - Percentage of average daily traffic occurring during the peak hour

Direction Split - Percentage of peak hour traffic traveling in peak direction.

Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.

Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.

v/c Ratio - Volume to Capacity Ratio

LOS - Caltrans District 11 procedure was used to estimate the freeway level of service. Designations vary from A to F, with four level of LOS F from F(0) to F(3).

SHORT REPORT

General Information

Analyst *R Peaslee/V Haskell/J Bavos*
 Agency or Co. *Darnell & Associates*
 Date Performed *02/09/2006*
 Time Period *AM Peak Hour*

Site Information

Intersection *Fuerte Dr/Avocado Blvd*
 Area Type *All other areas*
 Jurisdiction *County of San Diego*
 Analysis Year *Existing + Project*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Lane Group	L	T	R	L	T	R	L	TR		L	TR	
Volume (vph)	86	113	107	129	238	37	333	728	50	73	631	176
% Heavy Vehicles	2	2	2	2	2	2	2	2	2	2	2	2
PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Arrival Type	3	3	3	3	3	3	3	3		3	3	
Unit Extension	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0	0	0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	EB Only	WB Only	03	04	Excl. Left	NB Only	Thru & RT	08				
Timing	G = 10.0	G = 16.5	G =	G =	G = 12.0	G = 7.0	G = 31.5	G =				
	Y = 4.5	Y = 4.5	Y =	Y =	Y = 4.5	Y = 0	Y = 4.5	Y =				
Duration of Analysis (hrs) = 0.25						Cycle Length C = 95.0						

Lane Group Capacity, Control Delay, and LOS Determination

Duration of Study

Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
Adjusted Flow Rate	102	135	127	154	283	44	396	927		87	961	
Lane Group Capacity	186	196	558	307	324	550	438	1423		224	1137	
v/c Ratio	0.55	0.69	0.23	0.50	0.87	0.08	0.90	0.65		0.39	0.85	
Green Ratio	0.11	0.11	0.35	0.17	0.17	0.35	0.25	0.41		0.13	0.33	
Uniform Delay d_1	40.4	41.0	21.6	35.5	38.2	20.8	34.7	22.8		38.1	29.5	
Delay Factor k	0.15	0.26	0.11	0.11	0.40	0.11	0.43	0.23		0.11	0.38	
Incremental Delay d_2	3.4	9.8	0.2	1.3	22.2	0.1	21.9	1.1		1.1	6.0	
PF Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		1.000	1.000	
Control Delay	43.8	50.8	21.9	36.8	60.4	20.9	56.5	23.9		39.2	35.5	
Lane Group LOS	D	D	C	D	E	C	E	C		D	D	
Approach Delay	38.7			49.2			33.7			35.8		
Approach LOS	D			D			C			D		
Intersection Delay	37.3			Intersection LOS						D		

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SHORT REPORT

General Information						Site Information					
Analyst <i>R Peaslee/V Haskell/J Bavos</i>						Intersection <i>Fuerte Dr/Avocado Blvd</i>					
Agency or Co. <i>Darnell & Associates</i>						Area Type <i>All other areas</i>					
Date Performed <i>02/09/2006</i>						Jurisdiction <i>County of San Diego</i>					
Time Period <i>PM Peak Hour</i>						Analysis Year <i>Existing + Project</i>					

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Lane Group	L	T	R	L	T	R	L	TR		L	TR	
Volume (vph)	48	61	6	120	115	425	17	955	109	187	713	63
% Heavy Vehicles	2	2	2	2	2	2	2	2	2	2	2	2
P/F	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Arrival Type	3	3	3	3	3	3	3	3		3	3	
Left Extension	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Buses Stops/Hour	0	0	0	0	0	0	0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	EB Only	WB Only	03	04	Excl. Left	NB Only	Thru & RT	08				
Timing	G = 15.0	G = 14.0	G =	G =	G = 15.0	G = 5.0	G = 34.0	G =				
	Y = 4.5	Y = 4.5	Y =	Y =	Y = 4.5	Y = 0	Y = 4.5	Y =				
Duration of Analysis (hrs) = 0.25								Cycle Length C = 101.0				

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	49	62	6	122	117	434	17	1085		191	792	
Lane Group Capacity	263	277	619	245	258	525	429	1348		263	1180	
v Ratio	0.19	0.22	0.01	0.50	0.45	0.83	0.04	0.80		0.73	0.67	
Green Ratio	0.15	0.15	0.39	0.14	0.14	0.33	0.24	0.39		0.15	0.34	
Uniform Delay d ₁	37.7	37.9	18.8	40.2	40.0	31.1	29.3	27.6		41.0	28.7	
Delay Factor k	0.11	0.11	0.11	0.11	0.11	0.36	0.11	0.35		0.29	0.24	
Incremental Delay d ₂	0.3	0.4	0.0	1.6	1.3	10.5	0.0	3.7		9.6	1.5	
P Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		1.000	1.000	
Control Delay	38.0	38.3	18.8	41.8	41.3	41.6	29.3	31.3		50.7	30.2	
Lane Group LOS	D	D	B	D	D	D	C	C		D	C	
Approach Delay	37.2			41.6			31.3			34.2		
Approach LOS	D			D			C			C		
Intersection Delay	34.9			Intersection LOS						C		

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	V Haskell/J Bavos
Agency/Co.	Darnell & Associates, Inc.
Date Performed	02/09/2006
Analysis Time Period	AM Peak

Site Information

Intersection	Chase Ave/Chase Ln
Jurisdiction	County of San Diego
Analysis Year	Existing Plus Project

Project Description 030204-Fuerte Ranch

East/West Street: Chase Avenue

Intersection Orientation: East-West

North/South Street: Chase Lane

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)	0	351	57	14	660	1
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR (veh/h)	0	369	60	14	694	1
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					0
RT Channelized			0		1	0
Lanes	0	1	0	1	1	TR
Configuration	LTR			L	0	
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)	60	0	7	0	0	0
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR (veh/h)	63	0	7	0	0	0
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Flared Approach		Y			N	
Storage		1			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
			7	8	9	10	11	12
Movement	1	4					LTR	
Lane Configuration	LTR	L		LTR			0	
v (veh/h)	0	14		70				
C (m) (veh/h)	901	1130		198				
v/c	0.00	0.01		0.35				
95% queue length	0.00	0.04		1.50				
Control Delay (s/veh)	9.0	8.2		32.8				
LOS	A	A		D				
Approach Delay (s/veh)	--	--		32.8				
Approach LOS	--	--		D				

C4

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	V Haskell/J Bavos	Intersection	Chase Ave/Chase Ln
Agency/Co.	Darnell & Associates, Inc.	Jurisdiction	County of San Diego
Date Performed	02/09/2006	Analysis Year	Existing Plus Project
Analysis Time Period	PM Peak		

Project Description 030204-Fuerte Ranch

East/West Street: Chase Avenue

North/South Street: Chase Lane

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movement	Eastbound			Westbound		
	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	873	41	2	464	0
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	0	909	42	2	483	0
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
Left Turn Channelized			0			0
Right Turn Lanes	0	1	0	1	1	0
Left Turn Configuration	LTR			L		TR
Left Turn Signal		0			0	

Major Street Movement	Northbound			Southbound		
	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	25	0	4	0	0	0
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	26	0	4	0	0	0
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Left Turn Approach		Y			N	
Left Turn Storage		1			0	
Left Turn Channelized			0			0
Right Turn Lanes	0	1	0	0	1	0
Left Turn Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
	1	4	7	8	9	10	11	12
Left Turn Configuration	LTR	L		LTR			LTR	
Volume (veh/h)	0	2		30			0	
Flow (m) (veh/h)	1080	722		133				
Control Delay (s/veh)	0.00	0.00		0.23				
5% queue length	0.00	0.01		0.82				
Control Delay (s/veh)	8.3	10.0		41.4				
Level of Service	A	A		E				
Approach Delay (s/veh)	--	--		41.4				
Approach LOS	--	--		E				

C5

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	V Haskell/J Bavos	Intersection	Chase Ave/Fuerte Dr
Agency/Co.	Darnell & Associates, Inc.	Jurisdiction	County of San Diego
Date Performed	02/09/2006	Analysis Year	Existing Plus Project
Analysis Time Period	AM Peak		
Project Description 030204-Fuerte Ranch		North/South Street: Fuerte Drive	
East/West Street: Chase Avenue		Study Period (hrs): 0.25	
Intersection Orientation: East-West			

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)		322	3	265	684	
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR (veh/h)	0	338	3	278	720	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					0
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration			TR	L	T	
Upstream Signal		0			0	
Minor Street	Northbound			Southbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)	2		181			
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR (veh/h)	2	0	190	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound		Northbound			Southbound		
	1	4	7	8	9	10	11	12
Movement				LR				
Lane Configuration		L						
v (veh/h)		278		192				
C (m) (veh/h)		1229		659				
v/c		0.23		0.29				
95% queue length		0.87		1.21				
Control Delay (s/veh)		8.8		12.7				
LOS		A		B				
Approach Delay (s/veh)	--	--		12.7				
Approach LOS	--	--		B				

CG

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	V Haskell/J Bavos		Intersection	Chase Ave/Fuerte Dr
Agency/Co.	Darnell & Associates, Inc.		Jurisdiction	County of San Diego
Date Performed	02/09/2006		Analysis Year	Existing Plus Project
Analysis Time Period	PM Peak			

Project Description 030204-Fuerte Ranch

East/West Street: Chase Avenue

North/South Street: Fuerte Drive

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		833	4	140	482	
Peak-Hour Factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Hourly Flow Rate, HFR (veh/h)	0	858	4	144	496	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration			TR	L	T	
Upstream Signal		0			0	

Major Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	5		177			
Peak-Hour Factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Hourly Flow Rate, HFR (veh/h)	5	0	182	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Left Configuration		L		LR				
Volume (veh/h)		144		187				
Control Delay (s/veh)		789		333				
95% queue length		0.18		0.56				
Control Delay (s/veh)		10.6		28.8				
LOS		B		D				
Approach Delay (s/veh)	--	--	28.8					
Approach LOS	--	--	D					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	R Peaslee/J Bavos
Agency/Co.	Darnell & Associates, Inc.
Date Performed	02/09/2006
Analysis Time Period	AM Peak

Site Information

Intersection	Fuerte Farms/Damon
Jurisdiction	County of San Diego
Analysis Year	Existing Plus Project

Project Description 030204-Fuerte Ranch

East/West Street: Fuerte Farms Rd

North/South Street: Damon Ln

Intersection Orientation: North-South

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)	9	4	0	2	4	40
Peak-Hour Factor, PHF	0.50	0.50	0.50	0.50	0.50	0.50
Hourly Flow Rate, HFR (veh/h)	18	2	4	0	2	10
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					0
RT Channelized			0		1	0
Lanes	0	1	0	LTR		
Configuration	LTR				0	
Upstream Signal		0				
Minor Street	Eastbound			Westbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)	9	1	2	0	1	5
Peak-Hour Factor, PHF	0.50	0.50	0.50	0.50	0.50	0.50
Hourly Flow Rate, HFR (veh/h)	4	8	80	18	8	0
Percent Heavy Vehicles	2	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Northbound		Westbound			Eastbound		
	1	4	7	8	9	10	11	12
Movement	1	4					LTR	
Lane Configuration	LTR	LTR		LTR			LTR	
v (veh/h)	18	4		12			24	
C (m) (veh/h)	1508	1625		1004			872	
v/c	0.01	0.00		0.01			0.03	
95% queue length	0.04	0.01		0.04			0.08	
Control Delay (s/veh)	7.4	7.2		8.6			9.2	
LOS	A	A		A			A	
Approach Delay (s/veh)	--	--		8.6			9.2	
Approach LOS	--	--		A			A	

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	J Bavos		Intersection	Fuerte Farms/Damon
Agency/Co.	Darnell & Associates, Inc.		Jurisdiction	County of San Diego
Date Performed	02/09/2006		Analysis Year	Existing Plus Project
Analysis Time Period	Midday Peak			

Project Description 030204-Fuerte Ranch				
East/West Street: Fuerte Farms Rd			North/South Street: Damon Ln	
Intersection Orientation: North-South			Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	2	6	0	7	4	41
Peak-Hour Factor, PHF	0.61	0.61	0.61	0.61	0.61	0.61
Hourly Flow Rate, HFR (veh/h)	14	3	8	0	1	4
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Left Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Major Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	9	2	5	0	1	3
Peak-Hour Factor, PHF	0.61	0.61	0.61	0.61	0.61	0.61
Hourly Flow Rate, HFR (veh/h)	11	6	67	3	9	0
Percent Heavy Vehicles	2	0	0	0	0	0
Percent Grade (%)		0			0	
Filtered Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Left Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Queue Configuration	LTR	LTR		LTR			LTR	
Volume (veh/h)	3	11		5			25	
Control (m) (veh/h)	1527	1624		1001			926	
Delay (s)	0.00	0.01		0.00			0.03	
95% queue length	0.01	0.02		0.02			0.08	
Control Delay (s/veh)	7.4	7.2		8.6			9.0	
LOS	A	A		A			A	
Approach Delay (s/veh)	--	--		8.6			9.0	
Approach LOS	--	--		A			A	

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	J Bavos
Agency/Co.	Darnell & Associates, Inc.
Date Performed	02/09/2006
Analysis Time Period	

Site Information

Intersection	Fuerte Farms/Damon
Jurisdiction	County of San Diego
Analysis Year	Existing Plus Project

Project Description 030204-Fuerte Ranch

East/West Street: Fuerte Farms Rd

North/South Street: Damon Ln

Intersection Orientation: North-South

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)	2	4	0	7	6	4
Peak-Hour Factor, PHF	0.45	0.45	0.45	0.45	0.45	0.45
Hourly Flow Rate, HFR (veh/h)	13	4	0	0	2	6
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					0
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	
Minor Street	Eastbound			Westbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)	6	2	0	0	1	3
Peak-Hour Factor, PHF	0.45	0.45	0.45	0.45	0.45	0.45
Hourly Flow Rate, HFR (veh/h)	15	13	8	4	8	0
Percent Heavy Vehicles	2	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Northbound		Westbound			Eastbound		
	1	4	7	8	9	10	11	12
Movement				LTR			LTR	
Lane Configuration	LTR	LTR		LTR			LTR	
v (veh/h)	4	15		8			17	
C (m) (veh/h)	1595	1625		1000			888	
v/c	0.00	0.01		0.01			0.02	
95% queue length	0.01	0.03		0.02			0.06	
Control Delay (s/veh)	7.3	7.2		8.6			9.1	
LOS	A	A		A			A	
Approach Delay (s/veh)	--	--		8.6			9.1	
Approach LOS	--	--		A			A	

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	R Peaslee/J Bavos	Intersection	Fuerte Drive/Fuerte Farms
Agency/Co.	Darnell & Associates, Inc.	Jurisdiction	County of San Diego
Date Performed	02/09/2006	Analysis Year	Existing Plus Project
Analysis Time Period	AM Peak		

Project Description 030204-Fuerte Ranch

East/West Street: Fuerte Drive

North/South Street: Fuerte Farms

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		223	17	3	301	
Peak-Hour Factor, PHF	0.57	0.57	0.57	0.57	0.57	0.57
Hourly Flow Rate, HFR (veh/h)	0	391	29	5	528	0
Percent Heavy Vehicles	0	--	--	2	--	--
Median Type	Undivided					
Left Channelized			0			0
Right Channelized	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Major Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	72		6			
Peak-Hour Factor, PHF	0.57	0.57	0.57	0.57	0.57	0.57
Hourly Flow Rate, HFR (veh/h)	126	0	10	0	0	0
Percent Heavy Vehicles	2	0	2	0	0	0
Percent Grade (%)		0			0	
Left Approach		N			N	
Right Approach		0			0	
Left Channelized			0			0
Right Channelized	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Phase Configuration		LT		LR				
Volume (veh/h)		5		136				
Flow (m) (veh/h)		1139		302				
Control Delay (s/veh)		0.00		0.45				
Queue length		0.01		2.22				
Control Delay (s/veh)		8.2		26.3				
Control Delay (s/veh)		A		D				
Approach Delay (s/veh)	--	--	26.3					
Approach LOS	--	--	D					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	R Peaslee/J Bavos
Agency/Co.	Darnell & Associates, Inc.
Date Performed	02/09/2006
Analysis Time Period	PM Peak

Site Information

Intersection	Fuerte Drive/Fuerte Farms
Jurisdiction	County of San Diego
Analysis Year	Existing Plus Project

Project Description 030204-Fuerte Ranch

East/West Street: Fuerte Drive

North/South Street: Fuerte Farms

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		161	35	7	120	
Peak-Hour Factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Hourly Flow Rate, HFR (veh/h)	0	187	40	8	139	0
Percent Heavy Vehicles	0	--	--	2	--	--
Median Type	Undivided					0
RT Channelized			0		1	0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	20		5			
Peak-Hour Factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Hourly Flow Rate, HFR (veh/h)	23	0	5	0	0	0
Percent Heavy Vehicles	2	0	2	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (veh/h)		8		28				
C (m) (veh/h)		1341		661				
v/c		0.01		0.04				
95% queue length		0.02		0.13				
Control Delay (s/veh)		7.7		10.7				
LOS		A		B				
Approach Delay (s/veh)	--	--		10.7				
Approach LOS	--	--		B				

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	R Peaslee/V Haskell/J Bavos		Intersection	Fuerte/Chase Ln
Agency/Co.	Darnell & Associates Inc.		Jurisdiction	County of San Diego
Date Performed	02/09/2006		Analysis Year	Existing Plus Project
Analysis Time Period	AM Peak			

Project Description 030204 - Fuerte Farms

East/West Street: Fuerte Drive

North/South Street: Chase Lane

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	44	178	3	0	231	10
Peak-Hour Factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Hourly Flow Rate, HFR (veh/h)	52	211	3	0	275	11
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Major Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	5	2	2	7	1	60
Peak-Hour Factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Hourly Flow Rate, HFR (veh/h)	5	2	2	8	1	71
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Filtered Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
Volume (veh/h)	52	0		9			80	
Queue (m) (veh/h)	1276	1356		408			688	
Queue length	0.04	0.00		0.02			0.12	
% queue length	0.13	0.00		0.07			0.39	
Control Delay (s/veh)	7.9	7.7		14.0			10.9	
LOS	A	A		B			B	
Approach Delay (s/veh)	--	--	14.0			10.9		
Approach LOS	--	--	B			B		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	R Peaslee/V Haskell/J Bavos
Agency/Co.	Darnell & Associates Inc.
Date Performed	02/09/2006
Analysis Time Period	PM Peak

Site Information

Intersection	Fuerte/Chase Ln
Jurisdiction	County of San Diego
Analysis Year	Existing Plus Project

Project Description 030204 - Fuerte Farms

East/West Street: Fuerte Drive

North/South Street: Chase Lane

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)	20	169	1	5	120	5
Peak-Hour Factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79
Hourly Flow Rate, HFR (veh/h)	25	213	1	6	151	6
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					0
RT Channelized			0		1	0
Lanes	0	1	0	LTR		
Configuration	LTR				0	
Upstream Signal		0				
Minor Street	Northbound			Southbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)	4	5	2	31	2	10
Peak-Hour Factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79
Hourly Flow Rate, HFR (veh/h)	5	6	2	39	2	12
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound		Northbound			Southbound		
	1	4	7	8	9	10	11	12
Movement				LTR			LTR	
Lane Configuration	LTR	LTR						
v (veh/h)	25	6		13			53	
C (m) (veh/h)	1423	1356		539			570	
v/c	0.02	0.00		0.02			0.09	
95% queue length	0.05	0.01		0.07			0.31	
Control Delay (s/veh)	7.6	7.7		11.8			12.0	
LOS	A	A		B			B	
Approach Delay (s/veh)	--	--		11.8			12.0	
Approach LOS	--	--		B			B	

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	R Peaslee/V Haskell/J Bavos
Agency/Co.	Darnell & Associates Inc
Date Performed	02/09/2006
Analysis Time Period	AM Peak

Site Information

Intersection	Damon/Fuerte
Jurisdiction	County of San Diego
Analysis Year	Existing Plus Project

Project Description 030204 - Fuerte Farms

East/West Street: Fuerte Dr

North/South Street: Damon Lane

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	60	160	23	11	313	15
Peak-Hour Factor, PHF	0.50	0.50	0.50	0.50	0.50	0.50
Hourly Flow Rate, HFR (veh/h)	120	320	46	22	626	30
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Left Turn Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Major Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	14	1	18	10	0	9
Peak-Hour Factor, PHF	0.50	0.50	0.50	0.50	0.50	0.50
Hourly Flow Rate, HFR (veh/h)	28	2	36	20	0	18
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Left Turn Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Left Turn Configuration	LTR	LTR		LTR			LTR	
Volume (veh/h)	120	22		66			38	
Flow (m) (veh/h)	931	1193		217			177	
Control Delay (s/veh)	0.13	0.02		0.30			0.21	
5% queue length	0.44	0.06		1.23			0.78	
Control Delay (s/veh)	9.4	8.1		28.7			30.8	
Control Delay (s/veh)	A	A		D			D	
Approach Delay (s/veh)	--	--		28.7			30.8	
Approach LOS	--	--		D			D	

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TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	R Peaslee/V Haskell/J Bavos		Intersection	Damon/Fuerte
Agency/Co.	Darnell & Associates Inc		Jurisdiction	County of San Diego
Date Performed	02/09/2006		Analysis Year	Existing Plus Project
Analysis Time Period	MID Peak			

Project Description	030204 - Fuerte Farms			North/South Street:	Damon Lane
East/West Street:	Fuerte Dr			Study Period (hrs):	0.25
Intersection Orientation:	East-West				

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	46	105	25	12	156	18
Peak-Hour Factor, PHF	0.69	0.69	0.69	0.69	0.69	0.69
Hourly Flow Rate, HFR (veh/h)	66	152	36	17	226	26
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					0
RT Channelized			0		1	0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	9	0	26	8	1	12
Peak-Hour Factor, PHF	0.69	0.69	0.69	0.69	0.69	0.69
Hourly Flow Rate, HFR (veh/h)	13	0	37	11	1	17
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (veh/h)	66	17		50			29	
C (m) (veh/h)	1313	1386		662			548	
v/c	0.05	0.01		0.08			0.05	
95% queue length	0.16	0.04		0.24			0.17	
Control Delay (s/veh)	7.9	7.6		10.9			11.9	
LOS	A	A		B			B	
Approach Delay (s/veh)	--	--		10.9			11.9	
Approach LOS	--	--		B			B	

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	R Peaslee/V Haskell/J Bavos	Intersection	Damon/Fuerte
Agency/Co.	Darnell & Associates Inc	Jurisdiction	County of San Diego
Date Performed	02/09/2006	Analysis Year	Existing Plus Project
Analysis Time Period	PM Peak		
Project Description 030204 - Fuerte Farms			
East/West Street: Fuerte Dr		North/South Street: Damon Lane	
Intersection Orientation: East-West		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments

Major Street Movement	Eastbound			Westbound		
	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	3	149	8	10	111	2
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	3	155	8	10	115	2
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					0
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	
Minor Street Movement	Northbound			Southbound		
	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	3	0	6	2	0	0
Peak-Hour Factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Hourly Flow Rate, HFR (veh/h)	3	0	6	2	0	0
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound		Westbound		Northbound			Southbound		
	1	4	7	8	9	10	11	12		
Movement	1	4	7	8	9	10	11	12		
Lane Configuration	LTR	LTR		LTR			LTR			
v (veh/h)	3	10		9			2			
C (m) (veh/h)	1471	1416		788			639			
v/c	0.00	0.01		0.01			0.00			
95% queue length	0.01	0.02		0.03			0.01			
Control Delay (s/veh)	7.5	7.6		9.6			10.7			
LOS	A	A		A			B			
Approach Delay (s/veh)	--	--		9.6			10.7			
Approach LOS	--	--		A			B			

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APPENDIX D
► 2030 Base Worksheets

Table D1
2030 Freeway Segment Volumes and Level of Service Summary

Route	Limits	# Lanes	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	v/c Ratio	LOS
SR94	Sweetwater Springs to Avocado	2	4,400	88,000	8.60%	55.0%	5.0%	0.993	E
	Avocado to Jamacha (SR54)	2	4,400	67,000	8.60%	55.0%	5.0%	0.756	C

Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes

Capacity - Capacity in one direction

ADT - Average Daily Traffic

Peak Hour % - Percentage of average daily traffic occurring during the peak hour

Direction Split - Percentage of peak hour traffic traveling in peak direction.

Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.

Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.

v/c Ratio - Volume to Capacity Ratio

LOS - Caltrans District 11 procedure was used to estimate the freeway level of service. Designations vary from A to F, with four level of LOS F from F(0) to F(3).

SHORT REPORT

General Information				Site Information			
Analyst	R Peaslee/V Haskell/J Bavos			Intersection	Fuerte Dr/Avocado Blvd		
Agency or Co.	Darnell & Associates			Area Type	All other areas		
Date Performed	02/09/2006			Jurisdiction	County of San Diego		
Time Period	AM Peak Hour			Analysis Year	2030 w/o Project		

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Lane Group	L	T	R	L	T	R	L	TR		L	TR	
Volume (vph)	130	170	140	165	355	55	430	935	65	110	810	260
% Heavy Vehicles	2	2	2	2	2	2	2	2	2	2	2	2
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Arrival Type	3	3	3	3	3	3	3	3		3	3	
Unit Extension	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0	0	0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	EB Only	WB Only	03	04	Excl. Left	NB Only	Thru & RT	08				
Timing	G = 10.0	G = 18.0	G =	G =	G = 21.9	G = 5.0	G = 47.0	G =				
	Y = 4.5	Y = 4.5	Y =	Y =	Y = 4.5	Y = 0	Y = 4.5	Y =				
Duration of Analysis (hrs) = 0.25			Cycle Length C = 119.9									

Lane Group Capacity, Control Delay, and LOS Determination

Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
Adjusted Flow Rate	141	185	152	179	386	60	467	1087		120	1163	
Lane Group Capacity	148	155	547	266	280	586	464	1523		323	1339	
v/c Ratio	0.95	1.19	0.28	0.67	1.38	0.10	1.01	0.71		0.37	0.87	
Green Ratio	0.08	0.08	0.35	0.15	0.15	0.37	0.26	0.43		0.18	0.39	
Uniform Delay d_1	54.7	55.0	28.4	48.2	51.0	24.7	44.3	27.8		43.0	33.6	
Delay Factor k	0.46	0.50	0.11	0.24	0.50	0.11	0.50	0.28		0.11	0.40	
Incremental Delay d_2	59.7	133.7	0.3	6.5	191.2	0.1	43.4	1.6		0.7	6.4	
PF Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		1.000	1.000	
Control Delay	114.4	188.7	28.7	54.7	242.2	24.8	87.6	29.5		43.7	40.0	
Lane Group LOS	F	F	C	D	F	C	F	C		D	D	
Approach Delay	115.9			167.6			46.9			40.3		
Approach LOS	F			F			D			D		
Intersection Delay	72.3			Intersection LOS						E		

SHORT REPORT

General Information						Site Information					
Analyst <i>R Peaslee/V Haskell/J Bavos</i>						Intersection <i>Fuerte Dr/Avocado Blvd</i>					
Agency or Co. <i>Darnell & Associates</i>						Area Type <i>All other areas</i>					
Date Performed <i>02/09/2006</i>						Jurisdiction <i>County of San Diego</i>					
Time Period <i>PM Peak Hour</i>						Analysis Year <i>2030 w/o Project</i>					

Volume and Timing Input																
	EB			WB			NB			SB						
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT				
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0				
Lane Group	L	T	R	L	T	R	L	TR		L	TR					
Volume (vph)	75	80	10	160	170	645	25	1225	135	285	915	95				
% Heavy Vehicles	2	2	2	2	2	2	2	2	2	2	2	2				
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92				
Planned/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A				
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0					
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0					
Arrival Type	3	3	3	3	3	3	3	3		3	3					
Unit Extension	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0					
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0				
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0					
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N				
Parking/Hour																
Bus Stops/Hour	0	0	0	0	0	0	0	0		0	0					
Minimum Pedestrian Time		3.2			3.2			3.2			3.2					
Phasing	EB Only		WB Only		03		04		Excl. Left		NB Only		Thru & RT		08	
Timing	G = 6.0		G = 15.0		G =		G =		G = 18.0		G = 5.0		G = 37.0		G =	
	Y = 4.5		Y = 4.5		Y =		Y =		Y = 4.5		Y = 0		Y = 4.5		Y =	
Duration of Analysis (hrs) = 0.25								Cycle Length C = 99.0								

Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
Adjusted Flow Rate	82	87	11	174	185	701	27	1479		310	1098	
Lane Group Capacity	107	113	536	268	282	600	492	1482		322	1307	
v/c Ratio	0.77	0.77	0.02	0.65	0.66	1.17	0.05	1.00		0.96	0.84	
Green Ratio	0.06	0.06	0.34	0.15	0.15	0.38	0.28	0.42		0.18	0.37	
Uniform Delay d_1	45.8	45.8	21.8	39.5	39.6	30.8	26.2	28.5		40.2	28.3	
Delay Factor k	0.32	0.32	0.11	0.23	0.23	0.50	0.11	0.50		0.47	0.38	
Incremental Delay d_2	27.7	27.1	0.0	5.4	5.4	92.8	0.0	22.9		40.1	5.1	
PB Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		1.000	1.000	
Control Delay	73.6	72.9	21.8	45.0	45.0	123.5	26.3	51.3		80.3	33.4	
Lane Group LOS	E	E	C	D	D	F	C	D		F	C	
Approach Delay	70.1			96.9			50.9			43.7		
Approach LOS	E			F			D			D		
Intersection Delay	61.0			Intersection LOS						E		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	V Haskell/J Bavos	Intersection	Chase Ave/Chase Ln
Agency/Co.	Darnell & Associates, Inc.	Jurisdiction	County of San Diego
Date Performed	02/09/2006	Analysis Year	2030 w/o Project
Analysis Time Period	AM Peak		
Project Description 030204-Fuerte Ranch			
East/West Street: Chase Avenue		North/South Street: Chase Lane	
Intersection Orientation: East-West		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)	5	390	75	20	735	5
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	5	423	81	21	798	5
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration	LTR			L		TR
Upstream Signal		0			0	
Minor Street	Northbound			Southbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)	80	5	10	5	5	5
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	86	5	10	5	5	5
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Flared Approach		Y			N	
Storage		1			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound		Westbound		Northbound			Southbound		
	1	4	7	8	9	10	11	12		
Movement	1	4	7	8	9	10	11	12		
Lane Configuration	LTR	L		LTR			LTR			
v (veh/h)	5	21		101			15			
C (m) (veh/h)	821	1061		138			171			
v/c	0.01	0.02		0.73			0.09			
95% queue length	0.02	0.06		4.26			0.28			
Control Delay (s/veh)	9.4	8.5		81.4			28.1			
LOS	A	A		F			D			
Approach Delay (s/veh)	--	--		81.4			28.1			
Approach LOS	--	--		F			D			

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	V Haskell/J Bavos		Intersection	Chase Ave/Chase Ln
Agency/Co.	Darnell & Associates, Inc.		Jurisdiction	County of San Diego
Date Performed	02/09/2006		Analysis Year	2030 w/o Project
Analysis Time Period	PM Peak			

Project Description 030204-Fuerte Ranch

East/West Street: Chase Avenue

North/South Street: Chase Lane

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movement	Eastbound			Westbound		
	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	5	970	55	5	515	5
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	5	1054	59	5	559	5
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
Left Channelized			0			0
Right Channelized	0	1	0	1	1	0
Configuration	LTR			L		TR
Upstream Signal		0			0	

Major Street Movement	Northbound			Southbound		
	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	35	5	5	5	5	5
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	38	5	5	5	5	5
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Left Approach		Y			N	
Right Approach		1			0	
Left Channelized			0			0
Right Channelized	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Approach Configuration	LTR	L		LTR			LTR	
Volume (veh/h)	5	5		48			15	
Control Delay (s/veh)	1008	627		80			110	
Queue Length (m)	0.00	0.01		0.60			0.14	
Control Delay (s/veh)	0.01	0.02		2.69			0.46	
Control Delay (s/veh)	8.6	10.8		102.3			42.8	
Control Delay (s/veh)	A	B		F			E	
Approach Delay (s/veh)	--	--		102.3			42.8	
Approach LOS	--	--		F			E	

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	V Haskell/J Bavos
Agency/Co.	Darnell & Associates, Inc.
Date Performed	02/09/2006
Analysis Time Period	AM Peak

Site Information

Intersection	Chase Ave/Fuerte Dr
Jurisdiction	County of San Diego
Analysis Year	2030 w/o Project

Project Description 030204-Fuerte Ranch

East/West Street: Chase Avenue

North/South Street: Fuerte Drive

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		375	5	355	800	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	407	5	385	869	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					0
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration			TR	L	T	
Upstream Signal		0			0	
Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	5		230			
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	5	0	249	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L		LR				
v (veh/h)		385		254				
C (m) (veh/h)		1158		501				
v/c		0.33		0.51				
95% queue length		1.47		2.83				
Control Delay (s/veh)		9.6		19.3				
LOS		A		C				
Approach Delay (s/veh)	--	--		19.3				
Approach LOS	--	--		C				

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	V Haskell/J Bavos	Intersection	Chase Ave/Fuerte Dr	
Agency/Co.	Darnell & Associates, Inc.	Jurisdiction	County of San Diego	
Date Performed	02/09/2006	Analysis Year	2030 w/o Project	
Analysis Time Period	PM Peak			

Project Description 030204-Fuerte Ranch

East/West Street: Chase Avenue

North/South Street: Fuerte Drive

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		970	5	175	565	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	1054	5	190	614	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration			TR	L	T	
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	10		235			
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	10	0	255	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L		LR				
Volume (veh/h)		190		265				
Control Delay (s/veh)		665		230				
Queue Length (veh)		0.29		1.15				
95th Queue Length		1.18		12.39				
Control Delay (s/veh)		12.6		151.3				
LOS		B		F				
Approach Delay (s/veh)	--	--		151.3				
Approach LOS	--	--		F				

D7

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	R Peaslee/J Bavos
Agency/Co.	Darnell & Associates, Inc.
Date Performed	02/09/2006
Analysis Time Period	AM Peak

Site Information

Intersection	Fuerte Farms/Damon
Jurisdiction	County of San Diego
Analysis Year	2030 w/o Project

Project Description 030204-Fuerte Ranch

East/West Street: Fuerte Farms Rd

North/South Street: Damon Ln

Intersection Orientation: North-South

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	15	10			10	0
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	16	0	5	0	0	0
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					0
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	
Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	15		5			
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	10	0	16	10	0
Percent Heavy Vehicles	2	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	16						21	
C (m) (veh/h)	1610						975	
v/c	0.01						0.02	
95% queue length	0.03						0.07	
Control Delay (s/veh)	7.3						8.8	
LOS	A						A	
Approach Delay (s/veh)	--	--					8.8	
Approach LOS	--	--					A	

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	J Bavos
Agency/Co.	Darnell & Associates, Inc.
Date Performed	02/09/2006
Analysis Time Period	Midday Peak

Site Information

Intersection	Fuerte Farms/Damon
Jurisdiction	County of San Diego
Analysis Year	2030 w/o Project

Project Description 030204-Fuerte Ranch

East/West Street: Fuerte Farms Rd

North/South Street: Damon Ln

Intersection Orientation: North-South

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	5	10			10	65
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	16	0	10	0	0	0
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Access	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Major Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	15		10			
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	10	70	5	10	0
Percent Heavy Vehicles	2	0	0	0	0	0
Percent Grade (%)		0			0	
Island Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Access	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
Volume (veh/h)	5						26	
Flow (m) (veh/h)	1518						972	
Flow (veh/h)	0.00						0.03	
50th queue length	0.01						0.08	
Control Delay (s/veh)	7.4						8.8	
Control Delay (s/veh)	A						A	
Approach Delay (s/veh)	--	--					8.8	
Approach LOS	--	--					A	

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	J Bavos	Intersection	Fuerte Farms/Damon
Agency/Co.	Darnell & Associates, Inc.	Jurisdiction	County of San Diego
Date Performed	02/09/2006	Analysis Year	2030 w/o Project
Analysis Time Period	PM Peak Hour		

Project Description	030204-Fuerte Ranch	North/South Street:	Damon Ln
East/West Street:	Fuerte Farms Rd	Study Period (hrs):	0.25
Intersection Orientation:	North-South		

Vehicle Volumes and Adjustments						
Major Street	Northbound			Southbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)	5	10			10	10
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	10	0	0	0	0	0
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					0
RT Channelized			0	0	1	0
Lanes	0	1	0			TR
Configuration	LT				0	
Upstream Signal		0				
Minor Street	Eastbound			Westbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)	10		0			0.92
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	10	10	5	10	0
Percent Heavy Vehicles	2	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service							
Approach	Northbound	Southbound	Westbound			Eastbound	
Movement	1	4	7	8	9	10	11
Lane Configuration	LT						LR
v (veh/h)	5						10
C (m) (veh/h)	1596						975
v/c	0.00						0.01
95% queue length	0.01						0.03
Control Delay (s/veh)	7.3						8.7
LOS	A						A
Approach Delay (s/veh)	--	--					A
Approach LOS	--	--					

D10

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	R Peaslee/J Bavos	Intersection	Fuerte Drive/Fuerte Farms
Agency/Co.	Darnell & Associates, Inc.	Jurisdiction	County of San Diego
Date Performed	02/09/2006	Analysis Year	2030 w/o Project
Analysis Time Period	AM Peak		

Project Description 030204-Fuerte Ranch

East/West Street: Fuerte Drive

North/South Street: Fuerte Farms

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movement	Eastbound			Westbound		
	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		330	25	5	435	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	358	27	5	472	0
Percent Heavy Vehicles	0	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Access	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Major Street Movement	Northbound			Southbound		
	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	110		10			
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	119	0	10	0	0	0
Percent Heavy Vehicles	2	0	2	0	0	0
Percent Grade (%)		0			0	
Island Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Access	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
Volume (veh/h)		5		129				
Flow (m) (veh/h)		1173		342				
Control		0.00		0.38				
50th queue length		0.01		1.71				
Control Delay (s/veh)		8.1		21.8				
Control		A		C				
Approach Delay (s/veh)	--	--		21.8				
Approach LOS	--	--		C				

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TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information			
Analyst	R Peaslee/J Bavos			Intersection	Fuerte Drive/Fuerte Farms		
Agency/Co.	Darnell & Associates, Inc.			Jurisdiction	County of San Diego		
Date Performed	02/09/2006			Analysis Year	2030 w/o Project		
Analysis Time Period	PM Peak						
Project Description 030204-Fuerte Ranch				North/South Street: Fuerte Farms			
East/West Street: Fuerte Drive				Study Period (hrs): 0.25			
Intersection Orientation: East-West							
Vehicle Volumes and Adjustments							
Major Street	Eastbound			Westbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume (veh/h)		215	55	10	170		
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR (veh/h)	0	233	59	10	184	0	
Percent Heavy Vehicles	0	--	--	2	--	--	
Median Type	Undivided						
RT Channelized			0			0	
Lanes	0	1	0	0	1	0	
Configuration			TR			LT	
Upstream Signal		0			0		
Minor Street	Northbound			Southbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume (veh/h)	30		10				
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly Flow Rate, HFR (veh/h)	32	0	10	0	0	0	
Percent Heavy Vehicles	2	0	2	0	0	0	
Percent Grade (%)	0			0			
Flared Approach		N			N		
Storage		0			0		
RT Channelized			0			0	
Lanes	0	0	0	0	0	0	
Configuration		LR					
Delay, Queue Length, and Level of Service							
Approach	Eastbound	Westbound	Northbound			Southbound	
Movement	1	4	7	8	9	10	11
Lane Configuration		LT		LR			
v (veh/h)		10		42			
C (m) (veh/h)		1270		592			
v/c		0.01		0.07			
95% queue length		0.02		0.23			
Control Delay (s/veh)		7.9		11.5			
LOS		A		B			
Approach Delay (s/veh)	--	--	11.5				
Approach LOS	--	--	B				

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	R Peaslee/V Haskell/J Bavos	Intersection	Fuerte/Chase Ln
Agency/Co.	Darnell & Associates Inc.	Jurisdiction	County of San Diego
Date Performed	02/09/2006	Analysis Year	2030 w/o Project
Analysis Time Period	AM Peak		

Project Description 030204 - Fuerte Farms	
East/West Street: Fuerte Drive	North/South Street: Chase Lane
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	65	250	5	5	335	15
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	70	271	5	5	364	16
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Access	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Major Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	10	5	5	10	5	90
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	10	5	5	10	5	97
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Unimproved Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Access	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Queue Configuration	LTR	LTR	LTR			LTR		
Queue Length (veh/h)	70	5		20			112	
Queue Length (m) (veh/h)	1178	1287		294			570	
Queue Length (s/veh)	0.06	0.00		0.07			0.20	
50th Queue Length	0.19	0.01		0.22			0.72	
Control Delay (s/veh)	8.2	7.8		18.1			12.9	
LOS	A	A		C			B	
Approach Delay (s/veh)	--	--	18.1			12.9		
Approach LOS	--	--	C			B		

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	R Peaslee/V Haskell/J Bavos
Agency/Co.	Darnell & Associates Inc.
Date Performed	02/09/2006
Analysis Time Period	PM Peak

Site Information

Intersection	Fuerte/Chase Ln
Jurisdiction	County of San Diego
Analysis Year	2030 w/o Project

Project Description 030204 - Fuerte Farms

East/West Street: Fuerte Drive

North/South Street: Chase Lane

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)	30	245	5	10	160	10
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	32	266	5	10	173	10
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					0
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR	0	
Upstream Signal		0				
Minor Street	Northbound			Southbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)	10	10	5	50	5	15
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	10	10	5	54	5	16
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound		Westbound		Northbound			Southbound		
	1	4	7	8	9	10	11	12		
Movement	1	4	7	8	9	10	11	12		
Lane Configuration	LTR	LTR		LTR			LTR			
v (veh/h)	32	10		25			75			
C (m) (veh/h)	1392	1292		474			483			
v/c	0.02	0.01		0.05			0.16			
95% queue length	0.07	0.02		0.17			0.55			
Control Delay (s/veh)	7.6	7.8		13.0			13.8			
LOS	A	A		B			B			
Approach Delay (s/veh)	--	--		13.0			13.8			
Approach LOS	--	--		B			B			

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	R Peaslee/V Haskell/J Bavos	Intersection	Damon/Fuerte
Agency/Co.	Darnell & Associates Inc	Jurisdiction	County of San Diego
Date Performed	02/09/2006	Analysis Year	2030 w/o Project
Analysis Time Period	AM Peak		

Project Description 030204 - Fuerte Farms

East/West Street: Fuerte Dr

North/South Street: Damon Lane

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	90	225	35	15	435	25
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	97	244	38	16	472	27
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Access	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Major Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	20	5	25	15	5	15
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	21	5	27	16	5	16
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Access	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
Volume (veh/h)	97	16		53			37	
Flow (m) (veh/h)	1065	1280		321			277	
Flow (veh/h)	0.09	0.01		0.17			0.13	
15 min queue length	0.30	0.04		0.58			0.46	
Control Delay (s/veh)	8.7	7.8		18.4			20.0	
LOS	A	A		C			C	
Approach Delay (s/veh)	--	--		18.4			20.0	
Approach LOS	--	--		C			C	

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	R Peaslee/V Haskell/J Bavos	Intersection	Damon/Fuerte
Agency/Co.	Darnell & Associates Inc	Jurisdiction	County of San Diego
Date Performed	02/09/2006	Analysis Year	2030 w/o Project
Analysis Time Period	MID Peak		
Project Description 030204 - Fuerte Farms		North/South Street: Damon Lane	
East/West Street: Fuerte Dr		Study Period (hrs): 0.25	
Intersection Orientation: East-West			

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)	70	130	35	15	220	30
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	76	141	38	16	239	32
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					0
RT Channelized			0		1	0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR	0	
Upstream Signal		0				
Minor Street	Northbound			Southbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)	15	5	40	15	5	20
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	16	5	43	16	5	21
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound		Westbound		Northbound			Southbound		
	1	4	7	8	9	10	11	12		
Movement	1	4	7	8	9	10	11	12		
Lane Configuration	LTR	LTR		LTR			LTR			
v (veh/h)	76	16		64			42			
C (m) (veh/h)	1292	1397		607			490			
v/c	0.06	0.01		0.11			0.09			
95% queue length	0.19	0.03		0.35			0.28			
Control Delay (s/veh)	8.0	7.6		11.6			13.0			
LOS	A	A		B			B			
Approach Delay (s/veh)	--	--		11.6			13.0			
Approach LOS	--	--		B			B			

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	R Peaslee/V Haskell/J Bavos	Intersection	Damon/Fuerte
Agency/Co.	Darnell & Associates Inc	Jurisdiction	County of San Diego
Date Performed	02/09/2006	Analysis Year	2030 w/o Project
Analysis Time Period	PM Peak		
Project Description 030204 - Fuerte Farms			
East/West Street: Fuerte Dr		North/South Street: Damon Lane	
Intersection Orientation: East-West		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	5	195	10	10	155	5
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	5	211	10	10	168	5
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Left Turn Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Major Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	5	5	10	5	5	15
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	5	5	10	5	5	16
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Unsignalized Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Left Turn Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
Volume (veh/h)	5	10		20			26	
Flow (m) (veh/h)	1404	1348		637			694	
Delay (s/veh)	0.00	0.01		0.03			0.04	
Queue length	0.01	0.02		0.10			0.12	
Control Delay (s/veh)	7.6	7.7		10.8			10.4	
LOS	A	A		B			B	
Approach Delay (s/veh)	--	--		10.8			10.4	
Approach LOS	--	--		B			B	

SHORT REPORT

General Information

Analyst *R Peaslee/V Haskell/J Bavos*
 Agency or Co. *Darnell & Associates*
 Date Performed *02/09/2006*
 Time Period *AM Peak Hour*

Site Information

Intersection *Fuerte Dr/Avocado Blvd*
 Area Type *All other areas*
 Jurisdiction *County of San Diego*
 Analysis Year *2030 w/ Project*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Lane Group	L	T	R	L	T	R	L	TR		L	TR	
Volume (vph)	130	172	140	170	362	57	430	935	68	111	810	260
% Heavy Vehicles	2	2	2	2	2	2	2	2	2	2	2	2
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Arrival Type	3	3	3	3	3	3	3	3		3	3	
Unit Extension	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0	0	0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	EB Only	WB Only	03	04	Excl. Left	NB Only	Thru & RT	08				
Timing	G = 10.0	G = 18.0	G =	G =	G = 21.9	G = 5.0	G = 47.0	G =				
	Y = 4.5	Y = 4.5	Y =	Y =	Y = 4.5	Y = 0	Y = 4.5	Y =				
Duration of Analysis (hrs) = 0.25			Cycle Length C = 119.9									

Lane Group Capacity, Control Delay, and LOS Determination

Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
Adjusted Flow Rate	141	187	152	185	393	62	467	1090		121	1163	
Lane Group Capacity	148	155	547	266	280	586	464	1523		323	1339	
v/c Ratio	0.95	1.21	0.28	0.70	1.40	0.11	1.01	0.72		0.37	0.87	
Green Ratio	0.08	0.08	0.35	0.15	0.15	0.37	0.26	0.43		0.18	0.39	
Uniform Delay d_1	54.7	55.0	28.4	48.3	51.0	24.7	44.3	27.9		43.0	33.6	
Delay Factor k	0.46	0.50	0.11	0.26	0.50	0.11	0.50	0.28		0.11	0.40	
Incremental Delay d_2	59.7	138.4	0.3	7.7	201.7	0.1	43.4	1.6		0.7	6.4	
PF Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		1.000	1.000	
Control Delay	114.4	193.4	28.7	56.0	252.7	24.8	87.6	29.5		43.7	40.0	
Lane Group LOS	F	F	C	E	F	C	F	C		D	D	
Approach Delay	118.0			173.8			47.0			40.3		
Approach LOS	F			F			D			D		
Intersection Delay	73.9			Intersection LOS						E		

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SHORT REPORT

General Information				Site Information	
Analyst	R Peaslee/V Haskell/J Bavos			Intersection	Fuerte Dr/Avocado Blvd
Agency or Co.	Darnell & Associates			Area Type	All other areas
Date Performed	02/09/2006			Jurisdiction	County of San Diego
Time Period	PM Peak Hour			Analysis Year	2030 w/ Project

Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Lane Group	L	T	R	L	T	R	L	TR		L	TR	
Volume (vph)	75	89	10	163	173	646	25	1225	142	287	915	95
% Heavy Vehicles	2	2	2	2	2	2	2	2	2	2	2	2
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Retimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Arrival Type	3	3	3	3	3	3	3	3		3	3	
Unit Extension	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0	0	0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	EB Only	WB Only	03		04		Excl. Left		NB Only	Thru & RT		08
Timing	G = 6.0	G = 15.0	G =		G =		G = 18.0		G = 5.0	G = 37.0		G =
	Y = 4.5	Y = 4.5	Y =		Y =		Y = 4.5		Y = 0	Y = 4.5		Y =
Duration of Analysis (hrs) = 0.25								Cycle Length C = 99.0				

Duration of Analysis (hrs)

Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
Adjusted Flow Rate	82	97	11	177	188	702	27	1486		312	1098	
Lane Group Capacity	107	113	536	268	282	600	492	1481		322	1307	
v/c Ratio	0.77	0.86	0.02	0.66	0.67	1.17	0.05	1.00		0.97	0.84	
Green Ratio	0.06	0.06	0.34	0.15	0.15	0.38	0.28	0.42		0.18	0.37	
Uniform Delay d_1	45.8	46.1	21.8	39.6	39.6	30.8	26.2	28.5		40.2	28.3	
Delay Factor k	0.32	0.39	0.11	0.24	0.24	0.50	0.11	0.50		0.48	0.38	
Incremental Delay d_2	27.7	44.4	0.0	5.9	5.9	93.4	0.0	24.2		41.7	5.1	
PF Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		1.000	1.000	
Control Delay	73.6	90.4	21.8	45.5	45.5	124.2	26.3	52.7		81.9	33.4	
Lane Group LOS	E	F	C	D	D	F	C	D		F	C	
Approach Delay	79.2			97.3			52.2			44.1		
Approach LOS	E			F			D			D		
Intersection Delay	62.2			Intersection LOS						E		

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APPENDIX E

➤ **2030 + Project Worksheets**

1. The first part of the document is a list of names and addresses of the members of the committee. The names are listed in alphabetical order, and the addresses are listed below each name. The list includes names such as Mr. J. H. Smith, Mr. J. H. Jones, and Mr. J. H. Brown.

2. The second part of the document is a list of names and addresses of the members of the committee. The names are listed in alphabetical order, and the addresses are listed below each name. The list includes names such as Mr. J. H. Smith, Mr. J. H. Jones, and Mr. J. H. Brown.

Table E1
2030 + Project Freeway Segment Volumes and Level of Service Summary

Route	Limits	# Lanes	Capacity	ADT	Peak Hour %	Direction Split	Truck Factor	v/c Ratio	LOS
SR94	Sweetwater Springs to Avocado	2	4,400	88,090	8.60%	55.0%	5.0%	0.994	E
	Avocado to Jamacha (SR54)	2	4,400	67,009	8.60%	55.0%	5.0%	0.756	C

Lanes - Number of lanes in one direction: HOV-High Occupancy Lanes

Capacity - Capacity in one direction

ADT - Average Daily Traffic

Peak Hour % - Percentage of average daily traffic occurring during the peak hour

Direction Split - Percentage of peak hour traffic traveling in peak direction.

Truck Factor - Truck/terrain factor to represent influence of heavy vehicles and/or grades.

Peak Hour Volume - Peak hour traffic in peak direction of travel/ For facilities with HOV lanes, ten percent is assumed to use HOV lanes.

v/c Ratio - Volume to Capacity Ratio

LOS - Caltrans District 11 procedure was used to estimate the freeway level of service. Designations vary from A to F, with four level of LOS F from F(0) to F(3).

SHORT REPORT

General Information

Analyst *R Peaslee/V Haskell/J Bavos*
 Agency or Co. *Darnell & Associates*
 Date Performed *02/09/2006*
 Time Period *AM Peak Hour*

Site Information

Intersection *Fuerte Dr/Avocado Blvd*
 Area Type *All other areas*
 Jurisdiction *County of San Diego*
 Analysis Year *2030 w/ Project*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Lane Group	L	T	R	L	T	R	L	TR		L	TR	
Volume (vph)	130	172	140	170	362	57	430	935	68	111	810	260
% Heavy Vehicles	2	2	2	2	2	2	2	2	2	2	2	2
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Pretimed/Actuated (P/A)	A	A	A	A	A	A	A	A	A	A	A	A
Startup Lost Time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Extension of Effective Green	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Arrival Type	3	3	3	3	3	3	3	3		3	3	
Unit Extension	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Ped/Bike/RTOR Volume	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour	0	0	0	0	0	0	0	0		0	0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	EB Only	WB Only	03	04	Excl. Left	NB Only		Thru & RT		08		
Timing	G = 10.0	G = 18.0	G =	G =	G = 21.9	G = 5.0		G = 47.0		G =		
	Y = 4.5	Y = 4.5	Y =	Y =	Y = 4.5	Y = 0		Y = 4.5		Y =		
Duration of Analysis (hrs) = 0.25								Cycle Length C = 119.9				

Lane Group Capacity, Control Delay, and LOS Determination

Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
Adjusted Flow Rate	141	187	152	185	393	62	467	1090		121	1163	
Lane Group Capacity	148	155	547	266	280	586	464	1523		323	1339	
v/c Ratio	0.95	1.21	0.28	0.70	1.40	0.11	1.01	0.72		0.37	0.87	
Green Ratio	0.08	0.08	0.35	0.15	0.15	0.37	0.26	0.43		0.18	0.39	
Uniform Delay d ₁	54.7	55.0	28.4	48.3	51.0	24.7	44.3	27.9		43.0	33.6	
Delay Factor k	0.46	0.50	0.11	0.26	0.50	0.11	0.50	0.28		0.11	0.40	
Incremental Delay d ₂	59.7	138.4	0.3	7.7	201.7	0.1	43.4	1.6		0.7	6.4	
PF Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		1.000	1.000	
Control Delay	114.4	193.4	28.7	56.0	252.7	24.8	87.6	29.5		43.7	40.0	
Lane Group LOS	F	F	C	E	F	C	F	C		D	D	
Approach Delay	118.0			173.8			47.0			40.3		
Approach LOS	F			F			D			D		
Intersection Delay	73.9			Intersection LOS						E		

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SHORT REPORT

General Information

Analyst *R Peaslee/V Haskell/J Bavos*
 Agency or Co. *Darnell & Associates*
 Date Performed *02/09/2006*
 Time Period *PM Peak Hour*

Site Information

Intersection *Fuerte Dr/Avocado Blvd*
 Area Type *All other areas*
 Jurisdiction *County of San Diego*
 Analysis Year *2030 w/ Project*

Volume and Timing Input

		EB			WB			NB			SB						
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT				
Number of Lanes		1	1	1	1	1	1	1	2	0	1	2	0				
Lane Group		L	T	R	L	T	R	L	TR		L	TR					
Volume (vph)		75	89	10	163	173	646	25	1225	142	287	915	95				
% Heavy Vehicles		2	2	2	2	2	2	2	2	2	2	2	2				
PCE		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92				
Pretimed/Actuated (P/A)		A	A	A	A	A	A	A	A	A	A	A	A				
Startup Lost Time		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0					
Extension of Effective Green		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0					
Arrival Type		3	3	3	3	3	3	3	3		3	3					
Left Extension		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0					
Ped/Bike/RTOR Volume		0	0	0	0	0	0	0	0	0	0	0	0				
Lane Width		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0					
Parking/Grade/Parking		N	0	N	N	0	N	N	0	N	N	0	N				
Parking/Hour																	
30 Stops/Hour		0	0	0	0	0	0	0	0		0	0					
Minimum Pedestrian Time			3.2			3.2			3.2			3.2					
Phasing		EB Only		WB Only		03		04		Excl. Left		NB Only		Thru & RT		08	
Timing		G = 6.0		G = 15.0		G =		G =		G = 18.0		G = 5.0		G = 37.0		G =	
		Y = 4.5		Y = 4.5		Y =		Y =		Y = 4.5		Y = 0		Y = 4.5		Y =	
Duration of Analysis (hrs) = 0.25												Cycle Length C = 99.0					

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adjusted Flow Rate	82	97	11	177	188	702	27	1486		312	1098	
Lane Group Capacity	107	113	536	268	282	600	492	1481		322	1307	
Flow Ratio	0.77	0.86	0.02	0.66	0.67	1.17	0.05	1.00		0.97	0.84	
Green Ratio	0.06	0.06	0.34	0.15	0.15	0.38	0.28	0.42		0.18	0.37	
Uniform Delay d_1	45.8	46.1	21.8	39.6	39.6	30.8	26.2	28.5		40.2	28.3	
Delay Factor k	0.32	0.39	0.11	0.24	0.24	0.50	0.11	0.50		0.48	0.38	
Incremental Delay d_2	27.7	44.4	0.0	5.9	5.9	93.4	0.0	24.2		41.7	5.1	
Flow Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		1.000	1.000	
Control Delay	73.6	90.4	21.8	45.5	45.5	124.2	26.3	52.7		81.9	33.4	
Lane Group LOS	E	F	C	D	D	F	C	D		F	C	
Approach Delay	79.2			97.3			52.2			44.1		
Approach LOS	E			F			D			D		
Intersection Delay	62.2			Intersection LOS						E		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	V Haskell/J Bavos	Intersection	Chase Ave/Chase Ln
Agency/Co.	Darnell & Associates, Inc.	Jurisdiction	County of San Diego
Date Performed	02/09/2006	Analysis Year	2030 w/ Project
Analysis Time Period	AM Peak		
Project Description 030204-Fuerte Ranch			
East/West Street: Chase Avenue		North/South Street: Chase Lane	
Intersection Orientation: East-West		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	5	390	75	20	735	5
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	5	423	81	21	798	5
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration	LTR			L		TR
Upstream Signal		0			0	
Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	81	5	10	5	5	5
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	88	5	10	5	5	5
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		Y			N	
Storage		1			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	L		LTR			LTR	
v (veh/h)	5	21		103			15	
C (m) (veh/h)	821	1061		138			171	
v/c	0.01	0.02		0.75			0.09	
95% queue length	0.02	0.06		4.40			0.28	
Control Delay (s/veh)	9.4	8.5		83.6			28.1	
LOS	A	A		F			D	
Approach Delay (s/veh)	--	--		83.6			28.1	
Approach LOS	--	--		F			D	

E4

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	V Haskell/J Bavos		Intersection	Chase Ave/Chase Ln
Agency/Co.	Darnell & Associates, Inc.		Jurisdiction	County of San Diego
Date Performed	02/09/2006		Analysis Year	2030 w/ Project
Analysis Time Period	PM Peak			

Project Description 030204-Fuerte Ranch

East/West Street: Chase Avenue

North/South Street: Chase Lane

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	5	970	56	5	515	5
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	5	1054	60	5	559	5
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration	LTR			L		TR
Upstream Signal		0			0	

Major Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	35	5	5	5	5	5
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	38	5	5	5	5	5
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		Y			N	
Storage		1			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	L		LTR			LTR	
Volume (veh/h)	5	5		48			15	
Control (m) (veh/h)	1008	627		80			110	
Control Delay (s/veh)	0.00	0.01		0.60			0.14	
95th queue length	0.01	0.02		2.69			0.46	
Control Delay (s/veh)	8.6	10.8		102.3			42.8	
LOS	A	B		F			E	
Approach Delay (s/veh)	--	--	102.3			42.8		
Approach LOS	--	--	F			E		

TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information				
Analyst	V Haskell/J Bavos			Intersection	Chase Ave/Fuerte Dr			
Agency/Co.	Darnell & Associates, Inc.			Jurisdiction	County of San Diego			
Date Performed	02/09/2006			Analysis Year	2030 w/ Project			
Analysis Time Period	AM Peak							
Project Description 030204-Fuerte Ranch				North/South Street: Fuerte Drive				
East/West Street: Chase Avenue				Study Period (hrs): 0.25				
Intersection Orientation: East-West								
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)		375	5	358	800			
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR (veh/h)	0	407	5	389	869	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Undivided							
RT Channelized			0			0		
Lanes	0	1	0	1	1	0		
Configuration			TR	L	T			
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	5		238					
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly Flow Rate, HFR (veh/h)	5	0	258	0	0	0		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)		0			0			
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	0	0	0	0		
Configuration		LR						
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L		LR				
v (veh/h)		389		263				
C (m) (veh/h)		1158		504				
v/c		0.34		0.52				
95% queue length		1.49		2.98				
Control Delay (s/veh)		9.7		19.7				
LOS		A		C				
Approach Delay (s/veh)	--	--	19.7					
Approach LOS	--	--	C					

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	V Haskell/J Bavos		Intersection	Chase Ave/Fuerte Dr
Agency/Co.	Darnell & Associates, Inc.		Jurisdiction	County of San Diego
Date Performed	02/09/2006		Analysis Year	2030 w/ Project
Analysis Time Period	PM Peak			

Project Description 030204-Fuerte Ranch

East/West Street: Chase Avenue

North/South Street: Fuerte Drive

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		970	5	186	565	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	1054	5	202	614	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	1	1	0
Configuration			TR	L	T	
Upstream Signal		0			0	

Major Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	10		239			
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	10	0	259	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Filtered Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L		LR				
Volume (veh/h)		202		269				
Control Delay (s/veh)		665		229				
Queue length (m)		0.30		1.17				
Queue length (ft)		1.28		12.85				
Control Delay (s/veh)		12.8		159.3				
LOS		B		F				
Approach Delay (s/veh)	--	--	159.3					
Approach LOS	--	--	F					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	R Peaslee/J Bavos
Agency/Co.	Darnell & Associates, Inc.
Date Performed	02/09/2006
Analysis Time Period	AM Peak

Site Information

Intersection	Fuerte Farms/Damon
Jurisdiction	County of San Diego
Analysis Year	2030 w/ Project

Project Description 030204-Fuerte Ranch

East/West Street: Fuerte Farms Rd

North/South Street: Damon Ln

Intersection Orientation: North-South

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)	15	10	2	2	10	60
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	16	1	5	1	1	4
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					0
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	
Minor Street	Eastbound			Westbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)	15	1	5	1	1	4
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	2	10	65	16	10	2
Percent Heavy Vehicles	2	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Northbound		Westbound			Eastbound		
	1	4	7	8	9	10	11	12
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (veh/h)	16	2		6			22	
C (m) (veh/h)	1524	1620		974			906	
v/c	0.01	0.00		0.01			0.02	
95% queue length	0.03	0.00		0.02			0.07	
Control Delay (s/veh)	7.4	7.2		8.7			9.1	
LOS	A	A		A			A	
Approach Delay (s/veh)	--	--		8.7			9.1	
Approach LOS	--	--		A			A	

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	J Bavos
Agency/Co.	Darnell & Associates, Inc.
Date Performed	02/09/2006
Analysis Time Period	Midday Peak

Site Information

Intersection	Fuerte Farms/Damon
Jurisdiction	County of San Diego
Analysis Year	2030 w/ Project

Project Description 030204-Fuerte Ranch

East/West Street: Fuerte Farms Rd

North/South Street: Damon Ln

Intersection Orientation: North-South

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	5	10	1	6	10	65
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	16	2	10	2	1	3
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Major Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	15	2	10	2	1	3
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	6	10	70	5	10	1
Percent Heavy Vehicles	2	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
Volume (veh/h)	5	6		6			28	
Queue (m) (veh/h)	1518	1621		951			936	
Delay (s/veh)	0.00	0.00		0.01			0.03	
Queue length	0.01	0.01		0.02			0.09	
Control Delay (s/veh)	7.4	7.2		8.8			9.0	
LOS	A	A		A			A	
Approach Delay (s/veh)	--	--		8.8			9.0	
Approach LOS	--	--		A			A	

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	J Bavos	Intersection	Fuerte Farms/Damon
Agency/Co.	Darnell & Associates, Inc.	Jurisdiction	County of San Diego
Date Performed	02/09/2006	Analysis Year	2030 w/ Project
Analysis Time Period	PM Peak Hour		
Project Description 030204-Fuerte Ranch		North/South Street: Damon Ln	
East/West Street: Fuerte Farms Rd		Study Period (hrs): 0.25	
Intersection Orientation: North-South			

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
	1	2	3	4	5	6
Movement	L	T	R	L	T	R
Volume (veh/h)	5	10	1	6	10	10
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	10	2	0	2	1	3
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					0
RT Channelized			0		1	0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	
Minor Street	Eastbound			Westbound		
	7	8	9	10	11	12
Movement	L	T	R	L	T	R
Volume (veh/h)	10	2	0	2	1	3
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	6	10	10	5	10	1
Percent Heavy Vehicles	2	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Northbound		Westbound			Eastbound		
	1	4	7	8	9	10	11	12
Movement	L	L		L			L	
Lane Configuration	LTR	LTR		LTR			LTR	
v (veh/h)	5	6		6			12	
C (m) (veh/h)	1596	1621		986			924	
v/c	0.00	0.00		0.01			0.01	
95% queue length	0.01	0.01		0.02			0.04	
Control Delay (s/veh)	7.3	7.2		8.7			8.9	
LOS	A	A		A			A	
Approach Delay (s/veh)	--	--		8.7			8.9	
Approach LOS	--	--		A			A	

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TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	R Peaslee/J Bavos		Intersection	Fuerte Drive/Fuerte Farms
Agency/Co.	Darnell & Associates, Inc.		Jurisdiction	County of San Diego
Date Performed	02/09/2006		Analysis Year	2030 w/ Project
Analysis Time Period	AM Peak			

Project Description 030204-Fuerte Ranch

East/West Street: Fuerte Drive

North/South Street: Fuerte Farms

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		335	26	5	448	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	364	28	5	486	0
Percent Heavy Vehicles	0	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
es	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Major Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	111		10			
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	120	0	10	0	0	0
Percent Heavy Vehicles	2	0	2	0	0	0
Percent Grade (%)		0			0	
Left Approach		N			N	
Storage		0			0	
RT Channelized			0			0
es	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
Volume (veh/h)		5		130				
Flow (m) (veh/h)		1167		332				
Queue length		0.01		1.80				
Control Delay (s/veh)		8.1		22.7				
LOS		A		C				
Approach Delay (s/veh)	--	--	22.7					
Approach LOS	--	--	C					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	R Peaslee/J Bavos
Agency/Co.	Darnell & Associates, Inc.
Date Performed	02/09/2006
Analysis Time Period	PM Peak

Site Information

Intersection	Fuerte Drive/Fuerte Farms
Jurisdiction	County of San Diego
Analysis Year	2030 w/ Project

Project Description 030204-Fuerte Ranch

East/West Street: Fuerte Drive

North/South Street: Fuerte Farms

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		231	57	10	177	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	251	61	10	192	0
Percent Heavy Vehicles	0	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	31		10			
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	33	0	10	0	0	0
Percent Heavy Vehicles	2	0	2	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (veh/h)		10		43				
C (m) (veh/h)		1248		571				
v/c		0.01		0.08				
95% queue length		0.02		0.24				
Control Delay (s/veh)		7.9		11.8				
LOS		A		B				
Approach Delay (s/veh)	--	--	11.8					
Approach LOS	--	--	B					

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TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	R Peaslee/V Haskell/J Bavos		Intersection	Fuerte/Chase Ln
Agency/Co.	Darnell & Associates Inc.		Jurisdiction	County of San Diego
Date Performed	02/09/2006		Analysis Year	2030 w/ Project
Analysis Time Period	AM Peak			

Project Description 030204 - Fuerte Farms

East/West Street: Fuerte Drive

North/South Street: Chase Lane

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	66	258	5	5	338	15
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	71	280	5	5	367	16
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Major Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	10	5	5	10	5	90
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	10	5	5	10	5	97
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
Volume (veh/h)	71	5		20			112	
Flow (m) (veh/h)	1175	1277		287			564	
Flow (veh/h)	0.06	0.00		0.07			0.20	
Queue length	0.19	0.01		0.22			0.73	
Control Delay (s/veh)	8.3	7.8		18.5			13.0	
LOS	A	A		C			B	
Approach Delay (s/veh)	--	--	18.5			13.0		
Approach LOS	--	--	C			B		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	R Peaslee/V Haskell/J Bavos
Agency/Co.	Darnell & Associates Inc.
Date Performed	02/09/2006
Analysis Time Period	PM Peak

Site Information

Intersection	Fuerte/Chase Ln
Jurisdiction	County of San Diego
Analysis Year	2030 w/ Project

Project Description 030204 - Fuerte Farms

East/West Street: Fuerte Drive

North/South Street: Chase Lane

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	30	249	5	10	171	10
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	32	270	5	10	185	10
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	10	10	5	50	5	16
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	10	10	5	54	5	17
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
Volume (veh/h)	32	10		25			76	
Control Delay (s/veh)	1378	1288		463			474	
Control Delay (s/veh)	0.02	0.01		0.05			0.16	
95% queue length	0.07	0.02		0.17			0.57	
Control Delay (s/veh)	7.7	7.8		13.2			14.0	
LOS	A	A		B			B	
Approach Delay (s/veh)	--	--	13.2			14.0		
Approach LOS	--	--	B			B		

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TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	R Peaslee/V Haskell/J Bavos		Intersection	Damon/Fuerte
Agency/Co.	Darnell & Associates Inc		Jurisdiction	County of San Diego
Date Performed	02/09/2006		Analysis Year	2030 w/ Project
Analysis Time Period	AM Peak			

Project Description 030204 - Fuerte Farms

East/West Street: Fuerte Dr

North/South Street: Damon Lane

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	90	229	36	16	445	25
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	97	248	39	17	483	27
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Major Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	23	5	28	15	5	15
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	24	5	30	16	5	16
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (veh/h)	97	17		59			37	
C (m) (veh/h)	1055	1275		312			269	
v (veh/h)	0.09	0.01		0.19			0.14	
95% queue length	0.30	0.04		0.68			0.47	
Control Delay (s/veh)	8.8	7.9		19.2			20.5	
LOS	A	A		C			C	
Approach Delay (s/veh)	--	--		19.2			20.5	
Approach LOS	--	--		C			C	

EIS

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	R Peaslee/V Haskell/J Bavos
Agency/Co.	Darnell & Associates Inc
Date Performed	02/09/2006
Analysis Time Period	MID Peak

Site Information

Intersection	Damon/Fuerte
Jurisdiction	County of San Diego
Analysis Year	2030 w/ Project

Project Description 030204 - Fuerte Farms

East/West Street: Fuerte Dr

North/South Street: Damon Lane

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	70	143	37	17	225	30
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	76	155	40	18	244	32
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	16	5	41	15	5	20
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	17	5	44	16	5	21
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (veh/h)	76	18		66			42	
C (m) (veh/h)	1287	1378		586			476	
d/c	0.06	0.01		0.11			0.09	
95% queue length	0.19	0.04		0.38			0.29	
Control Delay (s/veh)	8.0	7.6		11.9			13.3	
LOS	A	A		B			B	
Approach Delay (s/veh)	--	--	11.9			13.3		
Approach LOS	--	--	B			B		

E16

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	R Peaslee/V Haskell/J Bavos
Agency/Co.	Darnell & Associates Inc
Date Performed	02/09/2006
Analysis Time Period	PM Peak

Site Information

Intersection	Damon/Fuerte
Jurisdiction	County of San Diego
Analysis Year	2030 w/ Project

Project Description 030204 - Fuerte Farms

East/West Street: Fuerte Dr

North/South Street: Damon Lane

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

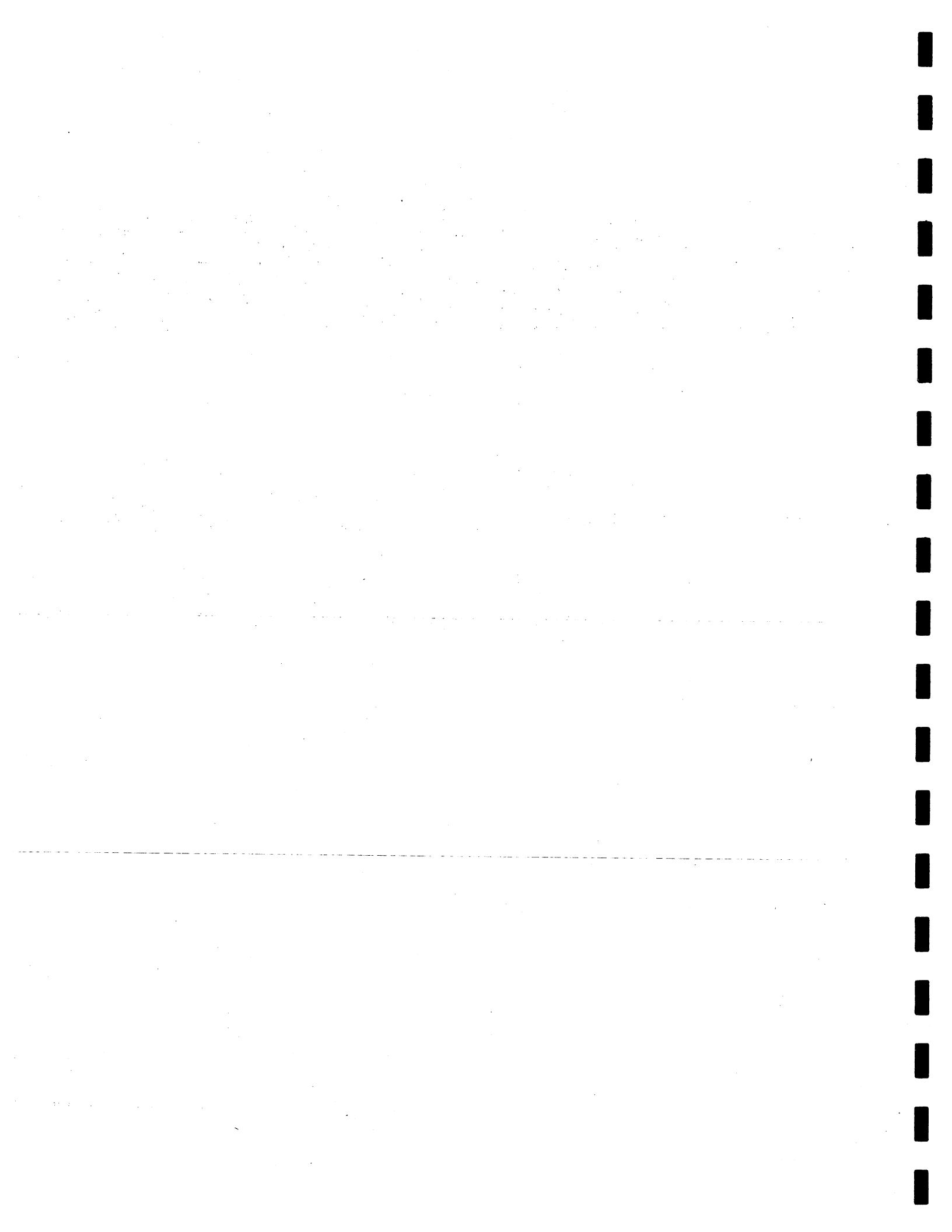
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	5	208	12	12	160	5
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	5	226	13	13	173	5
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	6	5	11	5	5	15
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	6	5	11	5	5	16
Percent Heavy Vehicles	2	2	2	2	2	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
Volume (veh/h)	5	13		22			26	
Control Delay (s/veh)	1398	1328		616			675	
Queue Length (veh)	0.00	0.01		0.04			0.04	
95% queue length	0.01	0.03		0.11			0.12	
Control Delay (s/veh)	7.6	7.7		11.1			10.5	
LOS	A	A		B			B	
Approach Delay (s/veh)	--	--		11.1			10.5	
Approach LOS	--	--		B			B	

E17



APPENDIX F
► Project Access Analysis Worksheets

[illegible]

the 1990s, the number of people in the world who are under 15 years of age is expected to increase by 1.5 billion, from 1.1 billion in 1990 to 2.6 billion in 2010. The number of people aged 65 and over is expected to increase by 1 billion, from 350 million in 1990 to 1.4 billion in 2010. The number of people aged 15-64 is expected to increase by 1.5 billion, from 2.5 billion in 1990 to 4.0 billion in 2010. The number of people aged 65 and over is expected to increase by 1 billion, from 350 million in 1990 to 1.4 billion in 2010. The number of people aged 15-64 is expected to increase by 1.5 billion, from 2.5 billion in 1990 to 4.0 billion in 2010.

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	V Haskell/R Peaslee/J Bavos	Intersection	Fuerte Drive/Project Access
Agency/Co.	Darnell & Associates, Inc.	Jurisdiction	County of San Diego
Date Performed	02/09/2006	Analysis Year	Existing Plus Project
Analysis Time Period	AM Peak Hour		

Project Description 030204-Fuerte Farms	
East/West Street: Fuerte Drive	North/South Street: Project Access
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		183	5	3	327	
Peak-Hour Factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75
Hourly Flow Rate, HFR (veh/h)	0	244	6	4	436	0
Percent Heavy Vehicles	0	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Major Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	12		8			
Peak-Hour Factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75
Hourly Flow Rate, HFR (veh/h)	16	0	10	0	0	0
Percent Heavy Vehicles	2	0	2	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
Volume (veh/h)		4		26				
Queue (m) (veh/h)		1316		502				
Delay (s)		0.00		0.05				
Queue length		0.01		0.16				
Control Delay (s/veh)		7.7		12.6				
LOS		A		B				
Approach Delay (s/veh)	--	--	12.6					
Approach LOS	--	--	B					

F1

TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information	
Analyst	V Haskell/R Peaslee/J Bavos		Intersection	Fuerte Drive/Project Access
Agency/Co.	Darnell & Associates, Inc.		Jurisdiction	County of San Diego
Date Performed	02/09/2006		Analysis Year	Existing Plus Project
Analysis Time Period	Mid-Day			

Project Description 030204-Fuerte Farms				
East/West Street: Fuerte Drive			North/South Street: Project Access	
Intersection Orientation: East-West			Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		124	15	10	180	
Peak-Hour Factor, PHF	0.71	0.71	0.71	0.71	0.71	0.71
Hourly Flow Rate, HFR (veh/h)	0	174	21	14	253	0
Percent Heavy Vehicles	0	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	6		4			
Peak-Hour Factor, PHF	0.71	0.71	0.71	0.71	0.71	0.71
Hourly Flow Rate, HFR (veh/h)	8	0	5	0	0	0
Percent Heavy Vehicles	2	0	2	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (veh/h)		14		13				
C (m) (veh/h)		1378		638				
v/c		0.01		0.02				
95% queue length		0.03		0.06				
Control Delay (s/veh)		7.6		10.8				
LOS		A		B				
Approach Delay (s/veh)	--	--	10.8					
Approach LOS	--	--	B					

F2

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	V Haskell/R Peaslee/J Bavos	Intersection	Fuerte Drive/Project Access
Agency/Co.	Darnell & Associates, Inc.	Jurisdiction	County of San Diego
Date Performed	02/09/2006	Analysis Year	Existing Plus Project
Analysis Time Period	PM Peak Hour		
Project Description 030204-Fuerte Farms			
East/West Street: Fuerte Drive		North/South Street: Project Access	
Intersection Orientation: East-West		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		142	15	10	117	
Peak-Hour Factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Hourly Flow Rate, HFR (veh/h)	0	169	17	11	139	0
Percent Heavy Vehicles	0	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Access	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Major Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	6		4			
Peak-Hour Factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Hourly Flow Rate, HFR (veh/h)	7	0	4	0	0	0
Percent Heavy Vehicles	2	0	2	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Access	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
Volume (veh/h)		11		11				
Flow (m) (veh/h)		1388		716				
Delay (s)		0.01		0.02				
50th queue length		0.02		0.05				
Control Delay (s/veh)		7.6		10.1				
Control		A		B				
Approach Delay (s/veh)	--	--	10.1					
Approach LOS	--	--	B					

F3

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	V Haskell/R Peaslee/J Bavos
Agency/Co.	Darnell & Associates, Inc.
Date Performed	02/09/2006
Analysis Time Period	AM Peak Hour

Site Information

Intersection	Fuerte Drive/Project Access
Jurisdiction	County of San Diego
Analysis Year	2030 w/ Project

Project Description 030204-Fuerte Farms

East/West Street: Fuerte Drive

North/South Street: Project Access

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		268	4	2	476	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	291	4	2	517	0
Percent Heavy Vehicles	0	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	10		7			
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	10	0	7	0	0	0
Percent Heavy Vehicles	2	0	2	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (veh/h)		2		17				
C (m) (veh/h)		1266		444				
v/c		0.00		0.04				
95% queue length		0.00		0.12				
Control Delay (s/veh)		7.8		13.4				
LOS		A		B				
Approach Delay (s/veh)	--	--	13.4					
Approach LOS	--	--	B					

F4

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	V Haskell/R Peaslee/J Bavos
Agency/Co.	Darnell & Associates, Inc.
Date Performed	02/09/2006
Analysis Time Period	Mid-Day

Site Information

Intersection	Fuerte Drive/Project Access
Jurisdiction	County of San Diego
Analysis Year	2030 w/ Project

Project Description 030204-Fuerte Farms

East/West Street: Fuerte Drive

North/South Street: Project Access

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		186	13	8	267	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	202	14	8	290	0
Percent Heavy Vehicles	0	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Major Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	5		3			
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	5	0	3	0	0	0
Percent Heavy Vehicles	2	0	2	0	0	0
Percent Grade (%)		0			0	
Unsignalized Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
Volume (veh/h)		8		8				
Control Delay (s/veh)		1354		602				
Queue length		0.01		0.01				
Control Delay (s/veh)		0.02		0.04				
LOS		7.7		11.1				
Approach Delay (s/veh)	--	A		B				
Approach LOS	--	--		11.1				
				B				

F5

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	V Haskell/R Peaslee/J Bavos	Intersection	Fuerte Drive/Project Access
Agency/Co.	Darnell & Associates, Inc.	Jurisdiction	County of San Diego
Date Performed	02/09/2006	Analysis Year	2030 w/ Project
Analysis Time Period	PM Peak Hour		

Project Description 030204-Fuerte Farms

East/West Street: Fuerte Drive

North/South Street: Project Access

Intersection Orientation: East-West

Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		211	13	8	172	
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	0	229	14	8	186	0
Percent Heavy Vehicles	0	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	5		3			
Peak-Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate, HFR (veh/h)	5	0	3	0	0	0
Percent Heavy Vehicles	2	0	2	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (veh/h)		8		8				
C (m) (veh/h)		1323		642				
v/c		0.01		0.01				
95% queue length		0.02		0.04				
Control Delay (s/veh)		7.7		10.7				
LOS		A		B				
Approach Delay (s/veh)	--	--	10.7					
Approach LOS	--	--	B					

FG

APPENDIX G
➤ Sight Distance Photos





Fuerte Dr/ Project Access – Looking East (15' back from edge line \approx 139')



Fuerte Dr/Project Access – Looking West (15' back from edge line \approx 116')



Fuerte Dr / Project Access – Looking East (10' back from edge line \approx 505')



Fuerte Dr / Project Access – Looking West (10' back from edge line \approx 463')



Looking from East (WB) on Fuerte @ Project Access – 475'



Looking from West (EB) of Fuerte @ Project Access – 500'



Fuerte Dr / Damon Lane – Looking West (10' back from edge line \approx 373')

G7



Fuerte Dr / Damon Lane – Looking East (10' back from edge line \approx 365')



Looking @ Damon from West (EB) on Fuerte – 490'

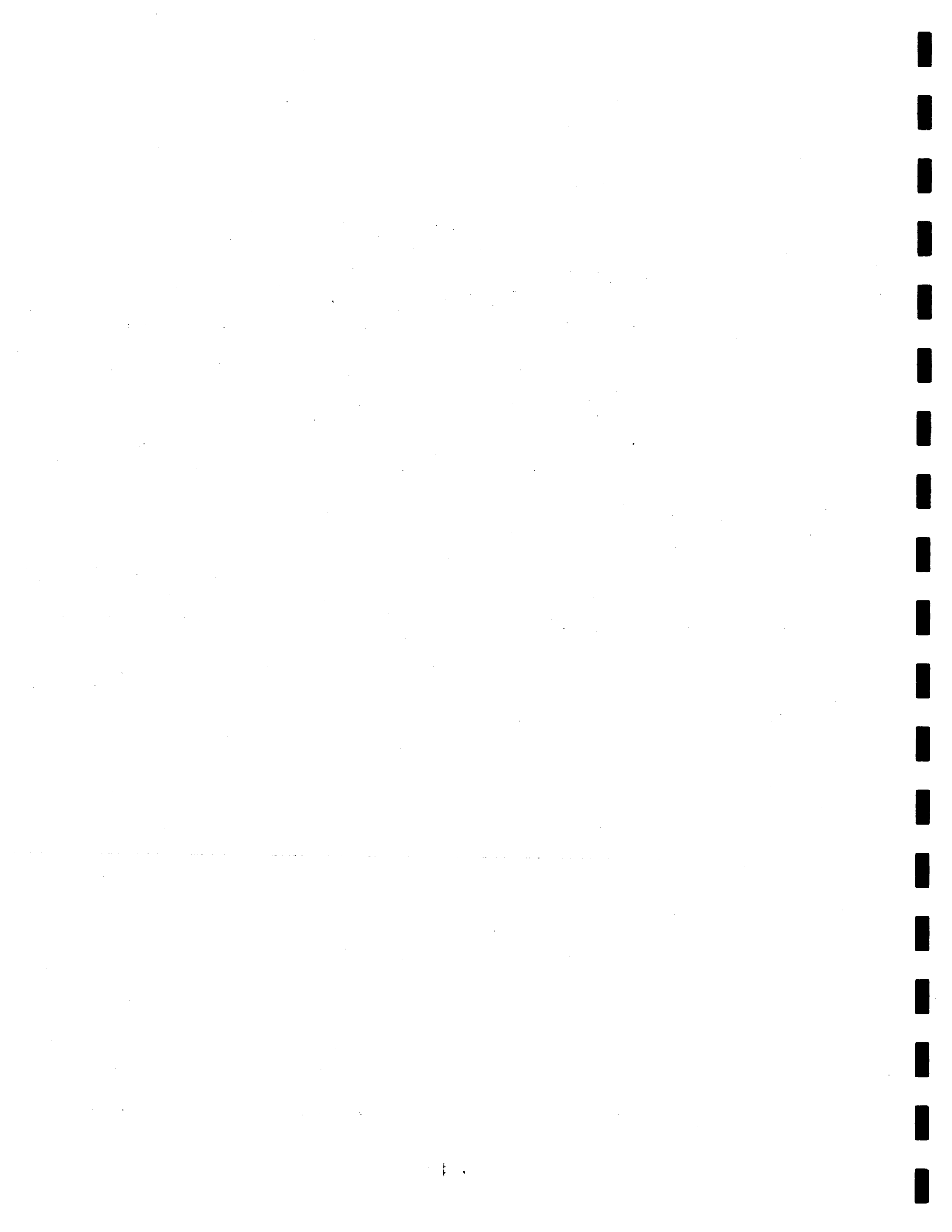


Looking @ Damon From East (WB) on Fuerte - 550'

G10

APPENDIX H

- Collision Records
- Speed Survey for Fuerte Drive



Collision Records

TRAFFIC ACCIDENTS REPORT
00/00/00

PAGE 02

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LOCATION		28-	FUERTE DR		AND AVOCADO BL		DISTANCE										SEVERITY										COLL 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GRP WEA LIT S CON V 018 CLR DAY A H/ I10 D A
001 CLR DSK A H/ I01 D A

I R P
ROAD N O E

OTHER ASCFAC P V R SAF E X S

N/ A C E G 68 F A
/ C B E W 53 M B

-----PARTY INFO-----

T M D AG S

LENGTH: 2820'

K-3

Speed Survey for Fuerte Drive



RADAR SPEED SURVEY

SAN DIEGO COUNTY TRAFFIC ENGINEERING

Fuerte Dr 510' E/o Karen Way

DATE: 10-13-04 TIME START: 9 AM TIME END: 11:30 AM WEATHER: clear ROAD TYPE: good
 DIRECTION: XBT SPEED LIMIT: 35 mph OBSERVER: S. Mockler CALIBRATION TEST: y

SPEED	FREQUENCY	Fi*Xi	ACUM TOTAL	ACUM %	PERCENTAGE BREAKDOWN
					0-----5-----10-----15-----20-----
30	2	60	2	1.0	***
31	8	248	10	5.2	*****
32	11	352	21	10.8	*****
33	5	165	26	13.4	*****
34	12	408	38	19.6	*****
35	21	735	59	30.4	*****
36	14	504	73	37.6	*****
37	14	518	87	44.8	*****
38	18	684	105	54.1	*****
39	12	468	117	60.3	*****
40	10	400	127	65.5	*****
41	10	410	137	70.6	*****
42	16	672	153	78.9	*****
43	9	387	162	83.5	*****
44	10	440	172	88.7	*****
45	6	270	178	91.8	*****
46	4	184	182	93.8	*****
47	6	282	188	96.9	*****
48	2	96	190	97.9	***
49	2	98	192	99.0	***
50	1	50	193	99.5	**
51	1	51	194	100.0	**
	194	7482			0-----5-----10-----15-----20-----

AVERAGE SPEED = 38.5
 50th PERCENTILE = 37.5
 85th PERCENTILE = 43.2
 90th PERCENTILE = 44.4
 95th PERCENTILE = 46.3

PACE = 34 - 43
 % IN PACE = 70.1
 VEHICLES IN PACE = 136

SAMPLE VARIANCE = 21.78044
 STANDARD DEVIATION = 4.666952
 RANGE 1*S = 70.10309
 RANGE 2*S = 96.90722
 RANGE 3*S = 100



APPENDIX I

➤ **Responses to County Comments**

THE OFFICE OF THE
ATTORNEY GENERAL

WASHINGTON, D. C.

1914

MEMORANDUM

DATE: December 6, 2004
TO: Hedy Levine, REC Consultants
FROM: Vicki S. Haskell, P.E. *VSH*
D&A Ref. No: 030204
RE: Fuerte Ranch (TM 5343) - Responses to County Comments

Darnell & Associates, Inc. has reviewed the County of San Diego's August 20, 2004 comments on our May 21, 2004 Traffic Study for the Proposed Fuerte Ranch (TM 5343) project. The following summarizes our responses to each of the County's comments. The responses have been incorporated into our latest submittal of the traffic study.

Comment 1: Use (~~Strikeouts~~ indicate deletions, underlines indicate additions) format, or other format (such as a cover letter) to clearly indicate where the information is in the document.

Response 1: Due to the extent of the revisions involved (updated existing traffic volumes, expanded cumulative analysis, revised future conditions analysis), a strike-out/underline comparison between the two versions of the report would be difficult to follow, and was therefore, not completed. Our written responses, however, indicate where each of the changes to the report were made to address the County's comments.

Comment 2: In light of the fact that the project is in close proximity to a school (which includes safety concerns) - Address/analyze the need for a left turn at the Fuerte Drive/Project access and Fuerte Drive/Damon Lane intersection.

Response 2: The need for left turn pockets at the Fuerte Drive/Project Access and Fuerte Drive/Damon Lane intersections has been provided in Section V, pages 35 and 37, of the revised study.

Comment 3: The traffic study should state that Fuerte Farms Road and Damon Lane are non-Circulation Element public roads.

- Response 3:** Both Fuerte Farms Road and Damon Lane are identified as being non-Circulation Element public roadways on page 7, Section II of the revised traffic study.
- Comment 4:** In addition to comparing the SANDAG Series 8 SR-54 Corridor Study forecast data to the Series 9 forecast (Pg. 26), the Series 8 forecast data should also be compared to the forecast volumes in the current Series 10 2030 SANDAG traffic model.
- Response 4:** The traffic study has been updated to incorporate the SANDAG Series 10, 2030 forecasts model. A detailed discussion on the future conditions analysis is provided in Section IV, page 28 of the revised traffic study.
- Comment 5:** The traffic study should identify the distance between the project's proposed Fuerte Drive entrance to neighboring driveways/intersections along Fuerte Drive, especially the Damon Lane intersection. The intersection/driveway spacing should be consistent with the County's Public Road Standards (PRS Section 6).
- Response 5:** The spacing between the project's proposed driveway and the neighboring driveways/intersections is discussed in Section V on page 36 of the revised traffic study.
- Comment 6:** In the Access Alternatives section (Pg. 32), the traffic study states that residents do not want Damon Lane to be widened as a justification for the project not taking access from Damon Lane. Damon Lane is a public road, but according to the traffic study (Pg. 7) the current paved width is only 20 feet. The resident's concerns should be considered, but Damon Lane should be improved to Public Road Standards and to the satisfaction of the local fire district along the project frontage.
- Response 6:** The developer will dedicate 30 feet of right-of-way for the future improvements/widening of Damon Lane but they are not proposing to make any improvements at this time. (See Section VIII, page 43 of the revised study.)
- Comment 7:** Fuerte Drive (SA 920) is a Circulation Element Plan road. The proposed project should take access from Damon Lane. The Valle De Oro Planning Group will most likely not approve the proposed project if it takes access via Damon Lane. Therefore, the project still proposes to provide access via Fuerte Drive and will file the necessary paperwork with the County to get access rights to Fuerte Drive.
- Comment 8:** Sight distance assessment (Pg. 32 and elsewhere in the document) for Fuerte Drive needs to consider the minimum design speed of its Light Collector classification, which is 45 mph, and the 85th percentile speed (prevailing speed).
- Response 8:** The sight distance assessment has been revised to reflect the minimum design speed of Fuerte Drive as being 45 mph, see Section V page 37 of the revised traffic study.
- Comment 9:** A Traffic Control Plan (TCP) should be prepared to address the project's construction traffic impacts (Pg. 34).

Response 9: Section VI, page 38, of the revised traffic study provides a discussion of the project's construction traffic impacts. The discussion provides a description of the haul routes, number of truck trips, etc. that are expected with the construction of the proposed project. A complete Traffic Control Plan for the project should not be required until after the project has been approved for development.

Comment 10: The traffic study recommends a fair-share contribution for the project's cumulative impact to the Fuerte Drive/Chase Avenue intersection (Pg. 39). The traffic study should verify that there is an official improvement project in place for the Fuerte Drive/Chase Avenue intersection or the project will be solely responsible for constructing the intersection improvements.

Response 10: The recommended mitigation measures have been revised accordingly. See Section VII, pages 43-45 of the revised report.

Comment 11: Pg. 17, the Cumulative Analysis should include approved, pending, and anticipated projects.

Response 11: The list of cumulative projects included in the analysis has been expanded. See Appendix B of the revised study for a complete list of the cumulative projects included in the analysis.

Comment 12: The applicant should coordinate with the DPW Traffic section regarding this traffic study's recommendation (Pg. 36, bottom paragraph) that the County's Traffic Advisory Committee (TAC 858-874-4030) review the conditions surrounding the Fuerte Elementary School independently of the TM 5343 project and incorporate the results in this traffic study.

Response 12: D&A will submit a request to the County Traffic Advisory Committee review the conditions surrounding the Fuerte Elementary School independently of the development of the proposed project. It may take several months for the TAC to review the conditions surrounding the Fuerte Elementary School, therefore, the results of the review can not be incorporated into the traffic study.

Please feel free to contact the office should you have any questions regarding our responses to each of the County's comments.

Darnell & ASSOCIATES, INC.

TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

MEMORANDUM

DATE: April 13, 2006
TO: Philip R Conrad Jr., Reynold's Communities
FROM: Rebecca L. Peaslee, EIT
Vicki S. Haskell, P.E.
D&A Ref. No: 030204
RE: Fuerte Ranch (TM 5343) - Responses to County Comments

Darnell & Associates, Inc. has reviewed the County of San Diego's August 20, 2004 comments on our May 21, 2004 Traffic Study for the Proposed Fuerte Ranch (TM 5343) project. D&A revised the report on December 6, 2004, however, due to the adoption of the TIF program, the report was revised again. The following summarizes our responses to each of the County's comments. The responses have been incorporated into our latest submittal of the traffic study.

Comment 1: Use (~~Strikeouts~~ indicate deletions, underlines indicate additions) format, or other format (such as a cover letter) to clearly indicate where the information is in the document.

Response 1: Due to the extent of the revisions involved (updated existing traffic volumes, reduced number of dwelling units, revised future conditions analysis), a strike-out/underline comparison between the two versions of the report would be difficult to follow, and was therefore, not completed. Our written responses, however, indicate where each of the changes to the report were made to address the County's comments.

Comment 2: In light of the fact that the project is in close proximity to a school (which includes safety concerns) - Address/analyze the need for a left turn at the Fuerte Drive/Project access and Fuerte Drive/Damon Lane intersection.

Response 2: The need for left turn pockets at the Fuerte Drive/Project Access and Fuerte Drive/Damon Lane intersections has been provided in Section V, pages 28 and 29, of the revised study.

Comment 3: The traffic study should state that Fuerte Farms Road and Damon Lane are non-Circulation Element public roads.

- Response 3:** Both Fuerte Farms Road and Damon Lane are identified as being non-Circulation Element public roadways on page 7, Section II of the revised traffic study.
- Comment 4:** In addition to comparing the SANDAG Series 8 SR-54 Corridor Study forecast data to the Series 9 forecast (Pg. 26), the Series 8 forecast data should also be compared to the forecast volumes in the current Series 10 2030 SANDAG traffic model.
- Response 4:** The traffic study has been updated to incorporate the SANDAG Series 10, 2030 forecasts model. A detailed discussion on the future conditions analysis is provided in Section IV, pages 21 and 23 of the revised traffic study.
- Comment 5:** The traffic study should identify the distance between the project's proposed Fuerte Drive entrance to neighboring driveways/intersections along Fuerte Drive, especially the Damon Lane intersection. The intersection/driveway spacing should be consistent with the County's Public Road Standards (PRS Section 6).
- Response 5:** The spacing between the project's proposed driveway and the neighboring driveways/intersections is discussed in Section V on page 29 of the revised traffic study.
- Comment 6:** In the Access Alternatives section (Pg. 32), the traffic study states that residents do not want Damon Lane to be widened as a justification for the project not taking access from Damon Lane. Damon Lane is a public road, but according to the traffic study (Pg. 7) the current paved width is only 20 feet. The resident's concerns should be considered, but Damon Lane should be improved to Public Road Standards and to the satisfaction of the local fire district along the project frontage.
- Response 6:** The developer will dedicate 30 feet of right-of-way for the future improvements/widening of Damon Lane. (See Section VIII, page 37 of the revised study.)
- Comment 7:** Fuerte Drive (SA 920) is a Circulation Element Plan road. The proposed project should take access from Damon Lane.
- Response 7:** The project still proposes to provide access via Fuerte Drive and will have a secondary access on Damon Lane. The project will file the necessary paperwork with the County to get access rights to Fuerte Drive.
- Comment 8:** Sight distance assessment (Pg. 32 and elsewhere in the document) for Fuerte Drive needs to consider the minimum design speed of its Light Collector classification, which is 45 mph, and the 85th percentile speed (prevailing speed).
- Response 8:** The sight distance assessment has been revised to reflect the minimum design speed of Fuerte Drive as being 45 mph, see Section V page 30 of the revised traffic study.
- Comment 9:** A Traffic Control Plan (TCP) should be prepared to address the project's construction traffic impacts (Pg. 34).
- Response 9:** Section VI, page 31, of the revised traffic study provides a discussion of the project's construction traffic impacts. The discussion provides a description of the haul routes,